EVERICK HERITAGE

Nightcap on Minjungbul Kunghur NSW

Aboriginal Cultural Heritage Assessment

Written for NCV Enterprises Pty Ltd

September 2020

Everick Heritage Pty Ltd

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Executive Summary

The following report details a preliminary Aboriginal Cultural Heritage Assessment ('ACHA') to provide guidance with respect to the management of Aboriginal objects and cultural values for the proposed Nightcap on Minjungbul Multiple Rural Land Sharing Community (the 'Proposed Works') located at Kunghur NSW (the 'Project Area'). The intent of this ACHA is to assess the potential for Aboriginal Cultural Heritage values associated with the Project Area and provide recommendations should Aboriginal or non-Indigenous (historic) heritage items be identified.

Everick Heritage Pty Ltd (the 'Consultant') was commissioned by Planit Consulting on behalf NCV Enterprises Pty Ltd (the 'Proponent') to undertake the ACHA for the Nightcap on Minjungbul Multiple Rural Land Sharing Community ('RLSC') and Stage 1 Road and Earthworks (Figure 3). The Nightcap on Minjungbul project comprises 12 lots, being 1 village and 11 RLSC lots which will provide for an indicative 392 residential dwelling plots.

AHIMS Extensive Search identified 36 registered Aboriginal Sites

The methods used for this assessment are in compliance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010) ('COPAI') and all relevant legislation as described in Section 2 of this Report. The following report complies with the accepted

methodology for undertaking a Cultural Heritage Assessment under the National Parks and Wildlife Act 1974 (NSW) (the 'NPW Act'). The methods employed in this assessment included:

- a search of relevant heritage registers and regional heritage literature;
- a review of relevant environmental data and previous land uses for the Project Area;
- a site inspection conducted with representatives of the Tweed Byron Local Aboriginal Land Council ('LALC');
- assessments of archaeological and cultural heritage significance and potential future impacts; and
- report on findings and recommended management strategies.

The assessment in the longer term also aims to establish if there are sites of an intangible nature or areas of a non-archaeological nature, significant to the Aboriginal community. At this stage of the assessment, if required, this would be through consultation with the Tweed Byron LALC. It is well known that the upper Tweed/Richmond region contains a remarkable concentration of Aboriginal sites of a mythological and spiritual nature. Natural features of the caldera complex together with Wollumbin (Mt Warning) provide the physical context for a body of traditional beliefs and associated practices that continue to this day.

Much of this information will remain confidential. To ensure that the intangible Aboriginal cultural heritage of the Project Area is fully explored it will be recommended to the Proponent that consultation with the wider Aboriginal community of both the Tweed and Richmond be undertaken.

A search was conducted on 21 August 2018 of the Aboriginal Heritage Information Management System (AHIMS service number 365410) for the Project Area with a 1000 m buffer. The search identified 36 registered Aboriginal sites within the search area and no Aboriginal Places (see Appendix B for the AHIMS search results). Site types identified in the area include: Artefacts (n=17), Modified/Scarred Tree (n=3), Grinding Groove (n=1), Earth mound/artefact (n=1), Aboriginal Ceremony Dreaming (n=1)

and Potential Archaeological Deposit (n=1) (Appendix B). The Site Catalogue included a range of Aboriginal site types although the full range is incomplete, as 12 Sites have a Restriction applied as to public access to their locations and details (Table 2). Access to Restricted sites information was provided by the Conservation Planning Officer of the Tweed Byron LALC Mr. Maurice Gannon. AHIMS Site Cards for Restricted sites were used in the field to determine whether the proposal will impact the sites and the field conditions at the time they were recorded.

Based on the field survey it is possible to make the following conclusions with respect to the potential of the Proposed Works to impact on Aboriginal sites;

- The Project Area comprises a complex sequence/assemblage of Aboriginal objects which primarily relate to the use and occupation of subtropical rainforests, closed forests and open forests. The nature and extent of this site assemblage is typically of similar scale studies in the region and demonstrate the general pattern of occupation of Aboriginal people in the Tweed Valley.
- Low density artefact scatters and isolated artefacts are by far the most dominant site 'type' within the Project Area, and the upper Tweed generally. This is consistent with similar local studies and demonstrates the physical presence of Aboriginal people in the Tweed into the hinterland and upper watersheds/catchments.
- Scarred trees, where they were identified did not fit the 'typical' morphology of bowls, shields and canoes. There is a question over the identification of all the scarred trees identified in the Project Area.
- The previously recorded AHIMS sites are typically inaccurate as they have either been recorded as 'restricted sites' and/or were recorded using the AGD datum. Of the AHIMS sites investigated none could be relocated in the field.
- Several PADs were identified in the field, typically on broader ridge crests in close proximity to water. The distribution of artefact scatters and isolated artefacts is such that many of the artefacts were recorded in areas of level to moderate slope where the topsoil layer

Project Area dominated by low density artefact scatters

had been removed by erosion. Where PADs have been identified it is likely that larger 'intact' archaeological sites will be present.

- Previous studies have identified the presence of sites of a ceremonial and spiritual nature within the upper river valleys and watersheds. Documentation of these types of sites was beyond the scope of the assessment, however there are no registered Aboriginal Places within the Project Area which would trigger a regulatory approval process.
- Having consideration for the constraints to site detection it is not possible to provide any detailed analysis of artefacts or sites that would provide any detailed or meaningful insights relevant to the management of cultural heritage within the Project Area. However, the field assessment has confirmed the prevalence of Aboriginal objects along the ridge crests and therefore the potential of the Proposed Works to harm Aboriginal sites. Based on this general conclusion it is reasonable to proceed on the basis that additional community consultation and investigation is required prior to commencement of the Proposed Works. However, it is noted that the scale and nature of the Proposed Works is such that it is reasonable to propose that Aboriginal heritage can be adequately managed through avoidance and the establishment of conservation areas; by the implementation of engineering solutions which minimise the footprint of buildings and roads on ridge crests near known sites and through regulatory means to salvage and relocate artefacts from construction areas.

The consultant is of the opinion that the Proposed Works have the potential to impact on Aboriginal sites. As such the following recommendations will assist the Proponent in meeting statutory obligations with respect to Aboriginal cultural heritage.

Recommendation 1: Additional Aboriginal Community Consultation

It is recommended that additional Aboriginal community consultation is undertaken in accordance with the Aboriginal Cultural Heritage

Consultation Requirements for Proponents (DECCW 2010) guidelines to provide an informed and more complete view of the potential of the Proposed Works to impact on Aboriginal cultural values and sites. The consultation should aim to develop a process for potential Aboriginal stakeholders in the RLSC project to consider the overall objectives and layout of the project and to assist with the development of management policies and strategies, inclusive of completion of additional cultural heritage research and archaeological investigation.

Recommendation 2: Archaeological Investigation and Aboriginal Heritage Impact Permits

The use of regulatory processes to manage impacts to Aboriginal heritage is considered appropriate for many of the sites identified within the Project Area, namely the low-density artefact scatters and isolated artefacts. Having consideration for the outcomes of the field investigation and the complexity of the RLSC proposal it is recommended that future AHIPS are held by the RLSC and not individual members/ residents. This in part acknowledges that AHIPs are linked to approved development applications per stage. As such it is recommended that all ground disturbing works for residential plots, such as the excavation of building pads and driveways, in proximity to recorded sites are undertaken by the RLSC.

Recommendation 3: Cultural Heritage Policy

It is recommended that a Cultural Heritage Policy is developed with representatives of the Aboriginal community to guide the RLSC project. The Policy should include the following;

- General policy statements.
- A outline of owners or stewards requirements.
- A summary of regulations and approval requirements.
- A list of item or values which can and cannot be subject to regulatory approval.

- Statements on the management of archaeological sites and values.
- Discussion of gaps in knowledge.
- A list of who should receive the policy.
- Guidelines on cultural heritage interpretation.
- Statements relating to confidential matters.
- Statements relating to policy reviews.

Recommendation 4: Cultural Heritage Induction

It is recommended that a cultural heritage induction is provided to all contractors who are engaged during construction. The purpose of the cultural heritage induction is to:

- Make staff aware of the survey effort to date and potential for the Project Area to contain Aboriginal sites;
- Provide sufficient training for staff to identify Aboriginal objects should they be impacted during construction works; and
- Ensure that staff are aware of response procedures in the event of any harm to Aboriginal sites during construction works.

It is recommended that the cultural heritage induction is provided by a suitably experienced member of the Aboriginal community or a qualified archaeologist.

Recommendation 5: Aboriginal Objects Find Procedure

It is recommended that if suspected Aboriginal material has been uncovered because of Proposed Works within the remainder of the Project Area:

- work in the surrounding area is to stop immediately;
- a temporary fence is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site;

- an appropriately qualified archaeological consultant is to be engaged to identify the material;
- if the material is found to be of Aboriginal origin, the Aboriginal community is to be consulted in a manner as outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DEECW 2010); and
- should the works be deemed to have harmed the Aboriginal objects, Heritage NSW should be notified immediately via the EPA Enviro Hotline.

Recommendation 6: Aboriginal Human Remains

Although it is unlikely that Human Remains will be located during earthworks within the Project Area, should this event arise it is recommended that all works must halt in the immediate area to prevent any further impacts to the remains. The Site should be cordoned off and the remains themselves should be left untouched. The nearest police station, the Tweed Byron LALC and the Heritage NSW Regional Office (Coffs Harbour) are all to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the Site for criminal activities, the Aboriginal community and the Heritage NSW should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.

It is also recommended that in all dealings with Aboriginal human remains, the Proponent should use respectful language, bearing in mind that they are the remains of Aboriginal people rather than scientific specimens.

Recommendation 7: Conservation Principles

It is recommended that all effort must be taken to avoid any impacts on Aboriginal Cultural Heritage values at all stages during the development works. If impacts are unavoidable, mitigation measures should be negotiated between the Proponent, Heritage NSW and the Aboriginal community.

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Definitions

The following definitions apply to the terms used in this report:

Aboriginal Object means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

Aboriginal Place means any place declared to be an Aboriginal Place (under s.84 of the NPW Act) by the Minister administering the NPW Act, by order published in the NSW Government Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.

ACHA means Aboriginal Cultural Heritage Assessment.

ACHCRP Guidelines means the OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010).

ACHMP means the Aboriginal Cultural Heritage Management Plan.

COPAI means Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.

DCP means Development Control Plans.

DECCW means the Department of Environment, Climate Change, and Water New South Wales.

DP means Deposited Plan.

DPI&E means the Department of Planning, Industry, and the Environment New South Wales.

Due Diligence Code means the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010).

Everick means Everick Heritage Pty Ltd.

LALC means Local Aboriginal Land Council.

LTR means Lemon Tree Road.

NPW Act means the National Parks and Wildlife Act 1974 (NSW).

NPW Regulations means the National Parks and Wildlife Regulations 2009 (NSW).

PAD means Potential Archaeological Deposit.

Project Area means the land subject to this assessment being Deposited Plans and Lots indicated in Figure 1 and Figure 2.

Proposed Works means all activities associated with construction and landscaping associated with the Nightcap on Minjungbul rural land sharing community project including activities undertaken by subsequent landholders.

Proponent means NCV Enterprises Pty Ltd and all employees and contractors of the Proponent.

RAP means Registered Aboriginal Party.

RLSC means Rural Land Sharing Community

The Consultant means qualified archaeological staff and/or contractors of Everick Heritage Pty Ltd.

TBLALC means Tweed Byron Local Aboriginal Land Council.

LEP means the Local Environment Plan.

TSCACHMP means the Draft Tweed Shire Council Aboriginal Cultural Heritage Management Plan (2017).

1. INTRODUCTION

1.1. Purpose of the Assessment

The following report details a preliminary Aboriginal Cultural Heritage Assessment ('ACHA') to provide guidance with respect to the management of Aboriginal objects and cultural values for the proposed Nightcap on Minjungbul Multiple Rural Land Sharing Community (the 'Proposed Works') located at Kunghur NSW (the 'Project Area'). The intent of this ACHA is to assess the potential for Aboriginal Cultural Heritage values associated with the Project Area and provide recommendations should Aboriginal or non-Indigenous (historic) heritage items be identified.

1.2. Proponent and Project Brief

Everick Heritage (the 'Consultant') was commissioned by Planit Consulting on behalf NCV Enterprises Pty Ltd (the 'Proponent') to undertake the ACHA for the Nightcap on Minjungbul Multiple Rural Land Sharing Community ('RLSC') and Stage 1 Road and Earthworks (Figure 3). The Nightcap on Minjungbul project comprises 12 lots, being 1 village and 11 RLSC lots which will provide for an indicative 392 residential dwelling plots.

The methods used for this assessment are in compliance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DEECW 2010) ('COPAI') and all relevant legislation as described in Section 2 of this Report. The following report complies with the accepted methodology for undertaking a Cultural Heritage Assessment under the National Parks and Wildlife Act 1974 (NSW) (the 'NPW Act'). The methods employed in this assessment included:

a) a search of relevant heritage registers and regional heritage literature;

b) a review of relevant environmental data and previous land uses for the Project Area;

c) a site inspection conducted with representatives of the Tweed Byron Local Aboriginal Land Council ('LALC');

d) assessments of archaeological and cultural heritage significance and potential future impacts; and

e) report on findings and recommended management strategies.

1.3. Description of the Project

The Project Area is currently zoned RU2 Rural Landscape under the Tweed Local Environment Plan ('LEP'). Multiple occupancy developments are identified by the LEP as permitted developments, subject to development consent. The Preliminary Concept, Subdivision and Staging Plans (Figure 1 - Figure 3) provide for approximately 392 residential plots with additional roads, services and utilities. Additionally, Lot 1 provides for a village centre which will be access from the Kyogle Road (see Figure 4). Cadastral information for the Proposed Works were provided by Planit Consulting (shown in Table 1).

Table 1: Cadastral and Preliminary Plan (Planit Consulting).

Lot	Area (HA)	RLSC Dwelling Plots
1	44.34	
2	200.1	42
3	260	62
4 (Existing)	90.82	24
5	42.2	12
6	210	54
7	154	40
8	194	50
9	210	54
10	175	45
11	40	9
TOTAL	1584.3	392

1.4. Report Authorship

The desktop study was undertaken by Senior Archaeologists Adrian Piper and Tim Hill, Archaeologist Pauline Fowler and Graduate Archaeologist Robbie Mazlin. A pedestrian survey of the Project Area was undertaken by Maurice Gannon, Conservation Planning Officer and Warren Phillips Sites Officer of the TBLALC and Adrian Piper of Everick Heritage. This report was written by Adrian Piper, Pauline Fowler and Tim Hill.

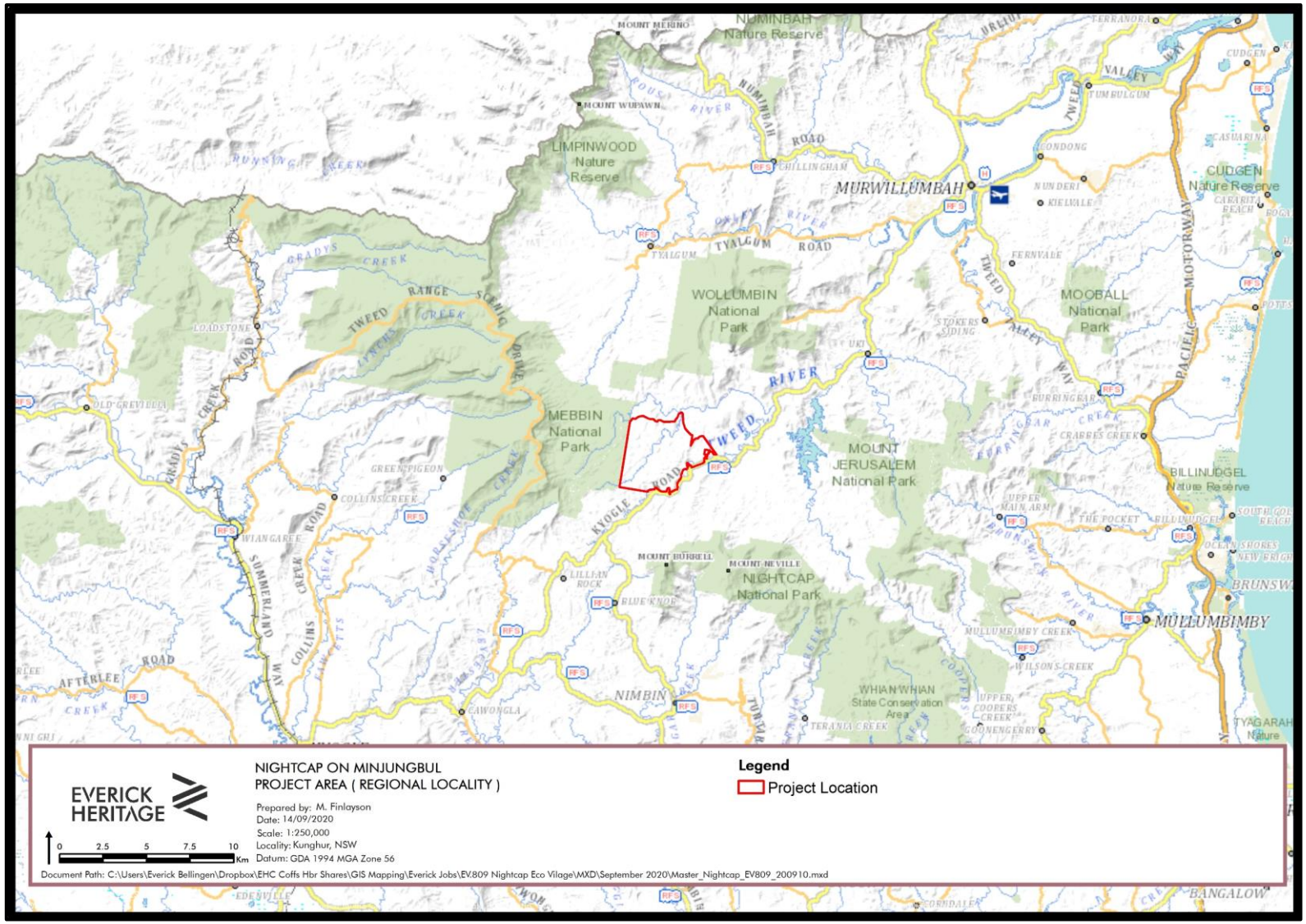


Figure 1: Regional location of the Nightcap Village Proposal.

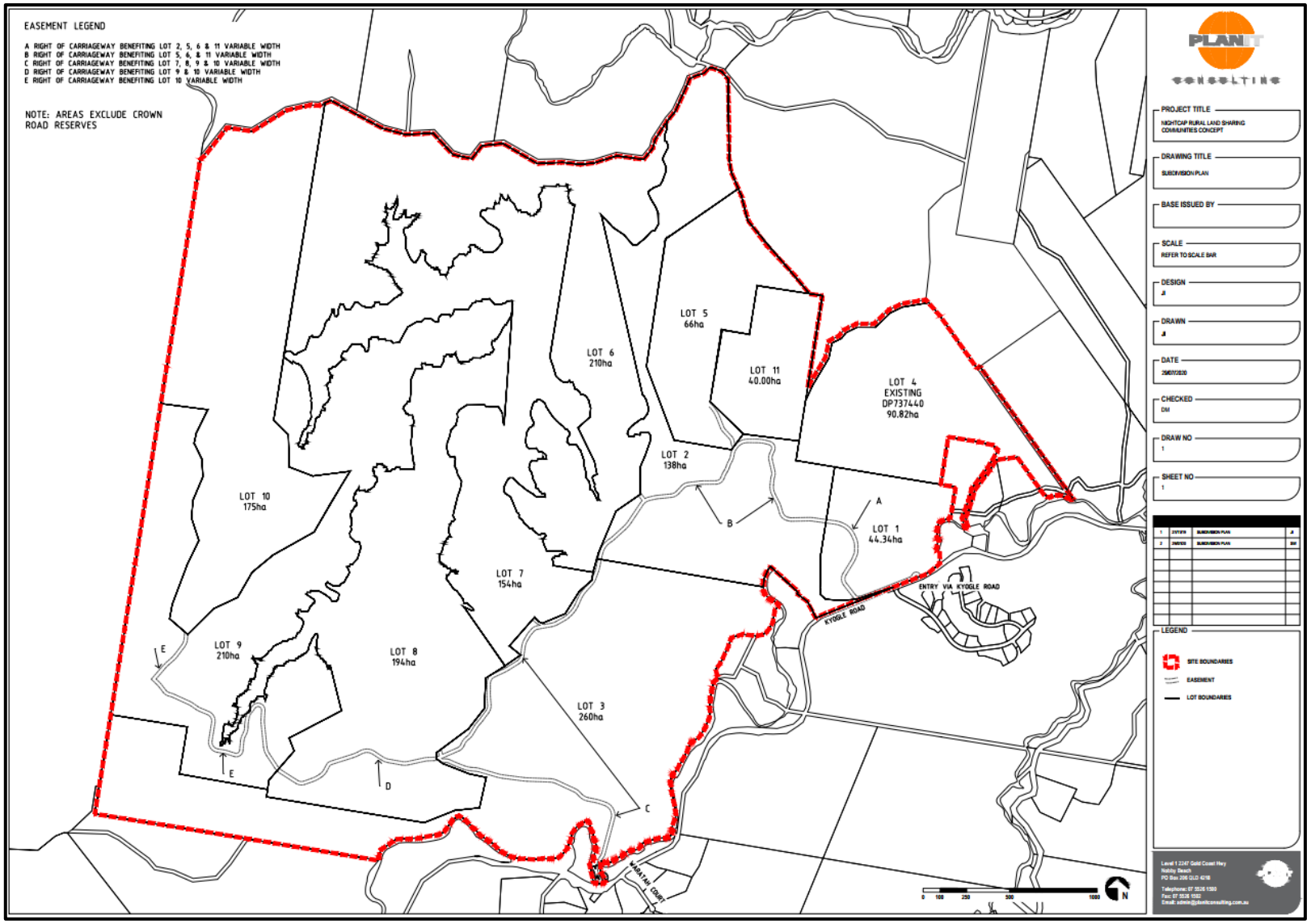


Figure 2: Nightcap on Minjungbul Subdivision Plan.

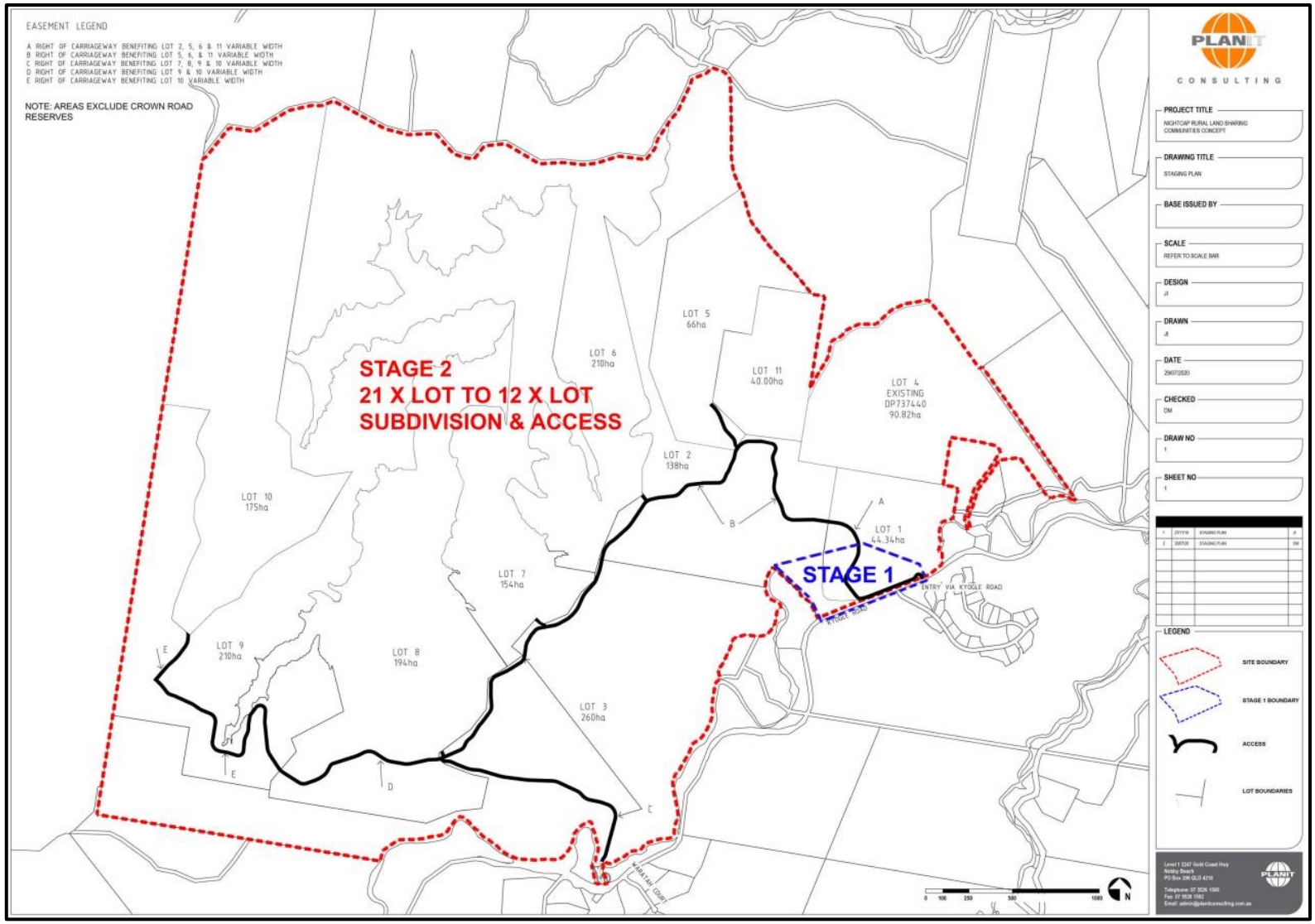


Figure 3: Proposed Staging Plan (Lots).

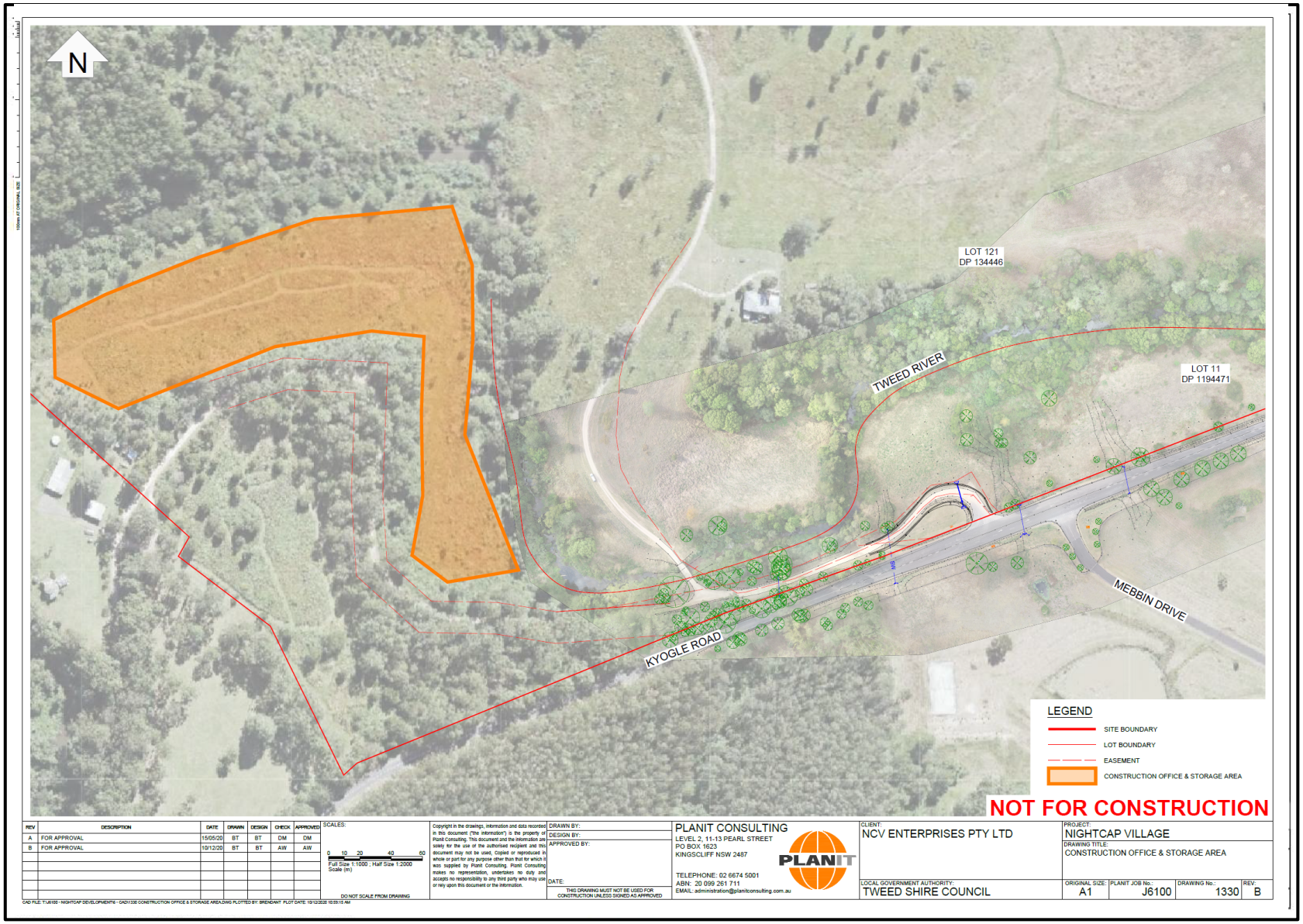


Figure 4: Stage 1 plans (Kyogle Road Access).

2. LEGISLATIVE AND PLANNING CONTEXT

The primary State legislation concerning cultural heritage in New South Wales is the NPW Act 1974 (NSW), the Tweed Shire Council Local Environment Plan 2014 ('LEP') and Development Control Plans ('DCP'). The Commonwealth also has a role in the protection of nationally significant cultural heritage through the Environmental Protection and Biodiversity Conservation Act 1999 (Cth), The Protection of Movable Cultural Heritage Act 1986 (Cth) and the Historic Shipwrecks Act 1976 (Cth).

For the purposes of this assessment the State and local legislation are most relevant. The consent authorities will be the Tweed Shire Council ('TSC') and, where a referral agency is required, the Heritage NSW. Approval from Heritage NSW will also be required should the Project impact on identified Aboriginal Objects. The information below lists the legislative and policy framework within which this assessment is set.

2.1. The National Parks and Wildlife Act 1974 (NSW)

The National Parks and Wildlife Act 1974 (NSW) (NPW Act) is the primary legislation concerning the identification and protection of Aboriginal cultural heritage. It provides for the management of both Aboriginal Objects and Aboriginal Places. Under the NPW Act, an Aboriginal Object is any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area, regardless of whether the evidence of habitation occurred before or after non-Aboriginal settlement of the land. This means that every Aboriginal Object, regardless of its size or seeming isolation from other Objects, is protected under the Act.

An Aboriginal Place is an area of particular significance to Aboriginal people which has been declared an Aboriginal Place by the Minister. The drafting of this legislation reflects the traditional focus on Objects, rather than on Area of significance such as story places and ceremonial grounds. However, a gradual shift in cultural heritage management practices is occurring towards recognising the value of identifying the significance of Area to Indigenous peoples beyond their physical attributes.

With the introduction of the National Parks and Wildlife Amendment Act 2010 (NSW) the former offence provisions under Section 86 of 'disturbing', 'moving', 'removing' or 'taking possession' of Aboriginal Objects or Places have been replaced by the new offence of 'harming or desecrating'. The definition of 'harm' is 'destroying, defacing or damaging an Object'. Importantly, in the context of the management

recommendations in this assessment, harm to an Object that is 'trivial or negligible' will not constitute an offence.

The amendments also significantly strengthen the penalty provisions. The issue of intent to harm Aboriginal cultural heritage has been formally addressed by separating it from inadvertent harm. The penalty for individuals who inadvertently harm Aboriginal Objects has been set at up to $55,000, while for corporations it is $220,000. Also introduced is the concept of 'circumstances of aggravation' which allows for harsher penalties (up to $110,000) for individuals who inadvertently harm Aboriginal heritage in the course of undertaking a commercial activity or have a record for committing similar offences. For those who knowingly harm Aboriginal cultural heritage, the penalty will rise substantially. The maximum penalty will be set at $275,000 or one year imprisonment for individuals, while for corporations it will rise to $1,100,000.

Where a land user has or is likely to undertake activities that will harm Aboriginal Objects, the Director General (Heritage NSW) has a range of enforcement powers, including stop work orders, interim protection orders and remediation orders. The amended regulations also allow for a number of penalties in support of these provisions. The NPW Act also now includes a range of defense provisions for unintentionally harming Aboriginal Objects:

a) Undertaking activities that are prescribed as 'Low Impact'.

b) Acting in accordance with the new Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (2010).

c) Using a consulting archaeologist who correctly applies the DPI&E Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (2010) ('COPAI').

d) Acting in accordance with an Aboriginal Heritage Impact Permit ('AHIP').

The regulations allow for a range of low impact activities to be undertaken without the need to consult Heritage NSW or a consulting archaeologist. Generally, those who undertake activities of this nature will not be committing an offence, even if they inadvertently harm Aboriginal Objects. These activities include:

a) Maintenance – For example on existing roads and tracks, or on existing utilities such as underground power cables and sewage lines.

b) Farming and Land Management – for land previously disturbed by activities such as cropping, grazing, bores, fencing, erosions control etc. *

c) Removal of dead or dying vegetation - only if there is minimal ground disturbance.

d) Environmental rehabilitation – weed removal, bush regeneration.

e) Development in accordance with a Development Certificate issued under the EPA Act 1979 (provided the land is previously disturbed). *

f) Downhole logging, sampling and coring using hand held equipment.

g) Geochemical surveying, seismic surveying, costeaning or drilling. *

* This defense is only available where the land has been disturbed by previous activity. Disturbance is defined as a clear and observable change to the land's surface, including but not limited to land disturbed by the following: soil ploughing; urban development; rural infrastructure (such as dams and fences); roads, trails and walking tracks; pipelines, transmission lines; and storm water drainage and other similar infrastructure.

2.2. Due Diligence Code of Practice for the Protection of Aboriginal Objects 2010

The Due Diligence Code operates by posing a series of questions for land users before they commence development. These questions are based around assessing the potential for an area to contain Aboriginal objects and any previous ground disturbance. An activity will generally be unlikely to harm Aboriginal Objects where it:

a) will cause no additional ground disturbance; or

b) is in a developed area; or

c) in a significantly disturbed area.

Where these criteria are not fulfilled, further assessment for Aboriginal cultural heritage will typically be required prior to commencing the activity.

2.3. The ACHCRP (2010)

The *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010) ('ACHCRP') provides an acceptable framework for conducting Aboriginal community consultation in preparation for impacts to Aboriginal cultural heritage. Proponents are required to follow them where a Project is likely to impact on cultural heritage and where required by Council. It is recommended by Heritage NSW that all cultural heritage assessments involve this level of consultation, although it is not strictly a requirement unless it meets the above criteria.

The ACHCRP Guidelines typically take a minimum of 90 days to complete. The Guidelines require public notice of the assessment, preparation of a proposed methodology, undertaking site meetings and excavations where required, the production of a draft report, which is distributed to the registered Aboriginal groups and the production of a final report.

Although not strictly required, a thorough consultation process will treat the ACHCRP Guidelines as a minimum standard of community consultation. Generally, consultants must go to further effort to identify the significance of a given site to the Aboriginal community. This will likely include undertaking additional site inspections if requested by Aboriginal stakeholders, fully resourcing the community by providing copies of past archaeological and environmental assessments in the region and meeting with community members to seek their opinions of the site.

2.4. The Heritage Act 1977 (NSW)

The Heritage Act 1977 (NSW) provides protection of the environmental heritage of the State which includes places, buildings, works, relics, movable objects or precincts that are of State or local heritage significance. Significance criteria provided by the Heritage Act as discussed in further detail in Section 5.1 below. The focus of the legislation is on identifying places of either local or state heritage significance, and protecting them by registration on heritage registers. Significant historic heritage items are afforded little protection (other than at the discretion of councils) where they are not on a heritage register.

Of note are the provisions allowing for interim heritage orders (Part 3), which grants the Minister or the Minister's delegates, (which importantly may include a local government agent) the power to enter a property and provide emergency protection for places that have not yet been put on a heritage register but that may be of local or State significance.

The Heritage Act 1977 (NSW) also makes allowances for the protection of archaeological deposits and relics (Part 6). An archaeological "relic" means any deposit, object or material evidence which relates to the non-Aboriginal settlement of the area. Importantly, a former requirement for an archaeological relic to be 50 years or older has been repealed. The focus is now on the item's potential heritage significance, not its age.

Heritage NSW maintains registers of heritage places and items that are of State or local significance to NSW. The NSW State Heritage Register (SHR) is the statutory register under Part 3A of the NSW Heritage Act whereas the State Heritage Inventory (SHI) is an amalgamated register of items listed on LEPs and/or

on a State Government Agency's Section 170 register and may include items that have been identified as having state or local level significance.

2.5. The Tweed Local Environment Plan 2014

The Tweed Shire LEP 2014 provides statutory protection for items already listed as being of heritage significance. It ensures that essential best practice components of the heritage decision-making process are followed.

A listed environmental heritage item is an item that is either:

- designated as an item of environmental heritage in Schedule 5 of the Tweed Shire LEP 2014; or
- designated as an item of Aboriginal cultural heritage by the Tweed Shire Council Aboriginal Cultural Heritage Management Plan (2017) ('TSCACHMP').

As per Part 5 Clause 5.10(2) of the Tweed Shire LEP 2014, for listed heritage items, a person must have the consent of the Council for:

a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):
    i. a heritage item,
    ii. an Aboriginal object,
    iii. a building, work, relic or tree within a heritage conservation area,
b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,
c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,
d) disturbing or excavating an Aboriginal Place of heritage significance,
e) erecting a building on land:
    i. on which a heritage item is located or that is within a heritage conservation area, or
    ii. on which an Aboriginal Object is located or that is within an Aboriginal Place of heritage significance; and

f) subdividing land:

   i. on which a heritage item is located or that is within a heritage conservation area, or

   ii. on which an Aboriginal Object is located or that is within an Aboriginal Place of heritage significance.

Consent should only be given once the Council considers the effect of the proposed development on the heritage significance of the area. The Council may also require a heritage management document to be prepared. This document must assess the extent to which the carrying out of the proposed development would affect the heritage significance of the area concerned. After this the Council may also require a heritage conservation management plan for the heritage that was assessed.

If the proposed development will require the demolition of a nominated State Heritage item then the Council must notify the Heritage Council of the application and consider any responses received within 28 days. Similarly, if the development is on an archaeological site, the Council must notify the Heritage Council of intentions to grant consent and consider any responses received within 28 days.

Should the development be on an Aboriginal Place of heritage significance, the Council must notify the local Aboriginal communities about the application and consider any responses received within 28 day's. Additionally, the Council must consider the effect that the development would have on the heritage significance of the Aboriginal Place and any Aboriginal Objects that are known or likely to be within the development. This must be done by means of an adequate investigation and assessment.

The Council may also grant consent for a development on a heritage item, land, or Aboriginal place that would not otherwise be allowed in this Plan, if the Council is satisfied that:

a) the conservation of the heritage item or Aboriginal place of heritage significance is facilitated by the granting of consent, and

b) the proposed development is in accordance with a heritage management document that has been approved by the consent authority, and

c) the consent to the proposed development would require that all necessary conservation work identified in the heritage management document is carried out, and

d) the proposed development would not adversely affect the heritage significance of the heritage item, including its setting, or the heritage significance of the Aboriginal place of heritage significance, and

e) the proposed development would not have any significant adverse effect on the amenity of the surrounding area.

3. ABORIGINAL COMMUNITY CONSULTATION

3.1. Traditional Owner Knowledge

The Aboriginal community are the primary determinants of the significance of their cultural heritage. Members of the Aboriginal community will be consulted, and will continue to be consulted, with regard to their concerns not only about known archaeological sites in the region, but also about cultural values such as areas with historic and spiritual significance, and other values relating to flora and fauna of the area. Everick Heritage recognises that there is Traditional Owner knowledge associated with the region that may have to be treated in a confidential manner. Where there is potential for impacts upon Aboriginal heritage as a result of future development proposals, consultation under ACHCRP (2010) would apply.

3.2. Consultation with the Aboriginal Community

Project information was provided to the TBLALC on 2nd January 2019 via a phone call and email correspondence (see Appendix A). It was proposed that the field inspection be undertaken on January 10, 11, 14, 15 and 16, 2019.

Additional project information for the Bhula Bhula property were forwarded to Tweed Byron LALC on 22 February (see Appendix A). The Additional Lots (Bhula Bhula Lots) were inspected on the March 6, 7 and 8, 2019.

The assessment, in the longer term, also aims to establish if there are sites of an intangible nature, or areas of a non-archaeological nature, significant to the Aboriginal community. At this stage of the assessment, if required, this would be through consultation with the TBLALC. It is well known that the upper Tweed / Richmond valleys contain a remarkable concentration of Aboriginal sites of a mythological and spiritual nature. Natural features of the caldera complex together with Wollumbin (Mt Warning) provide the physical context for a body of traditional beliefs and associated practices that continue to this day.

Much of this information will remain confidential. To ensure that the intangible Aboriginal Cultural Heritage of the Project is fully explored it will be recommended to the Proponent that consultation with the wider Aboriginal community of both the Tweed and Richmond be undertaken.

4. LANDSCAPE CONTEXT

4.1. Topography and Soils

The Project Area comprises both Byrrill (by) and Kunghur (ku) erosional soil landscapes after Morand (1996) (Figure 5). The Byrrill soil landscape comprises low hills and rolling hills on Walloon Coal Measures west toward the Tweed Range and a smaller area of Bundamba sediments to the east around Mebbin Springs and the Tweed River. The geology of the Walloon Coal Measures contains rock types found in Aboriginal stone tool assemblages: lithic sandstones, siltstone and mudstones while the Bundamba Group contains similar rock types with the addition of conglomerate.

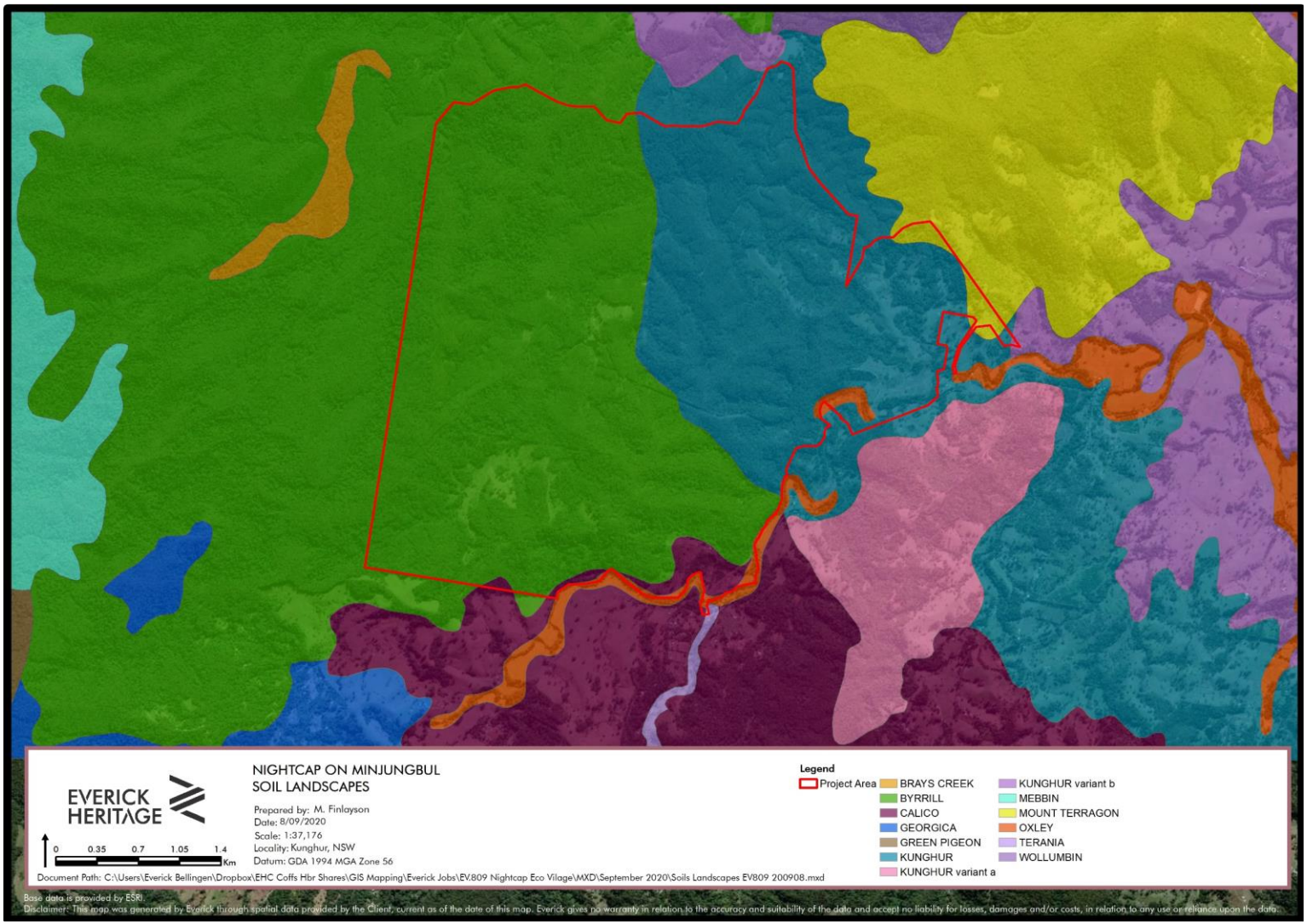
The Project contains two stream catchments. A high steep ridge divides the Tweed River from the Kungurloo Creek catchment. Steep slopes and streams fall south to the Tweed River at Mebbin Springs. The Kunghurloo Creek catchment forms the central catchment drainage feature, emanating in the Tweed Range caldera, falling north east to converge with Byrrill Creek. Ridges and spurs tend to be long with level crests, narrow in places and generally moderately broad. A vehicle track network formally the Mebbin State Forest links the lower spur lines with the central ridge crests. The Byrrill Creek Inundation proposal will flood the Kunghurloo Creek Valley to RL 140 leaving 'spines' of ridges and hill crests upon which it is proposed to site dwellings, access roads and services.

4.2. Vegetation

Original vegetation is similar over both the Byrrill and Kunghur soil landscapes comprising open forest (wet sclerophyll) and closed forest (rain forest) within sheltered wetter areas. Open forest species included white mahogany, grey gum, iron bark, bloodwood, and tallowwood. Bla-dy grass, bracken fern and lantana are common ground covers (Morand 1996: 63 and 76). The Proposed Works will utilise only the ridge crests and upper slopes where open forest conditions prevail.

Existing forest vegetation bears little resemblance to the original cover as the wet sclerophyll cover today is largely regrowth with the exception of isolated old growth types. The majority of the proposed dwelling 'spines' are located on ridges or spurs under managed plantation forest that appears to be principally black-butt. It is reasonable to state that all of the proposed dwelling spines have been subject to ground disturbance through selective logging and plantation forestry practices.

In pre-European times areas of kangaroo grass were present in Kunghur soil landscapes. Unlike the remainder of the Tweed Valley which was reported at the time of European settlement to be covered in "an impenetrable rainforest," the upper Tweed contained open grassed (kangaroo grass) areas suitable to grazing without the need for clearing. Pastoral Leases called the Upper Walumban Run and Walumban Run were taken in 1845 prior to any other land selections in the Tweed Valley (Keats 1988: 381).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SOIL LANDSCAPES
Prepared by: M. Finlayson
Date: 8/09/2020
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Legend
Project Area
BRAYS CREEK
BYRRILL
CALICO
GEORGICA
GREEN PIGEON
KUNGHUR
KUNGHUR variant a
KUNGHUR variant b
MEBBIN
MOUNT TERRAGON
OXLEY
TERANIA
WOLLUMBIN
Base data is provided by ESRI.
Disclaimer: This map was generated by Everick through spatial data provided by the Client, current as of the date of this map. Everick gives no warranty in relation to the accuracy and suitability of the data and accept no liability for losses, damages and/or costs, in relation to any use or reliance upon the data.

Figure 5: Soil landscapes.

4.3. Disturbance History Forestry Practice

A large proportion of the Project Area is land formally under management of Mebbin State Forest. Therefore, large tracts were managed initially for plantation timbers of flooded gum and later black-butt which was more commercially viable. There are implications for the disturbance to and survival of, Aboriginal archaeological sites under plantation forest practices. Site preparation involves residue management, cultivation and weed management. Heavy machinery is used to clear unwanted trees and undergrowth into heaps or windrows which may be subsequently burnt. Cultivation may be undertaken by machinery or by hand, dependant on the terrain conditions of the site. Harvesting is by machinery which may be preceded by mechanical thinning of unwanted timbers (Forestry Corporation 2016: 20).

The implications for Aboriginal archaeological sites are firstly the potential loss of scarred trees. Secondly, wherever the forestry management processes have taken place there has been high degrees of disturbance by movement of surface and immediate sub surface soils, where Aboriginal sites might be expected. Over a period of fifty to sixty years or longer, this process or rotation may be repeated numbers of times. At best estimate the greater part of surface area in the Project, particularly the crests and upper slopes of ridges and spurs will be highly disturbed.

5. HERITAGE REGISTERS: ABORIGINAL AND HISTORIC HERITAGE

5.1. The Aboriginal Heritage Information Management System

A search was conducted on 21 August 2018 of the Aboriginal Heritage Information Management System ('AHIMS') (Service Number: 365410) for the Project Area, with a 1000 m buffer. The search identified 36 registered Aboriginal sites within the search area and no Aboriginal Places (Appendix B). Site types identified in the area include, artefacts (n=17), modified / scarred trees (n=3), grinding groove (n=1), earth mound / artefact (n=1), Aboriginal Ceremony Dreaming (n=1) and Potential Archaeological Deposit (n=1) (Appendix B).

The site catalogue included a range of Aboriginal site types although the full range is incomplete as 12 Sites have a restriction applied, as to the public access of their locations and details (Table 2). Access to restricted site information was provided by the Conservation Planning Officer of the TBLALC, Mr. Maurice Gannon. AHIMS Site Cards for restricted sites were used in the field to determine whether the proposal will impact the sites and the field conditions at the time they were recorded.

Of the 36 sites listed in total, 18 sites were excluded from field investigation as they are not in close proximity to the Proposed Works (see Table 3). The remaining 6 previously recorded sites, which have the potential to be impacted by the Proposed Works are outlined in Table 4.

Caution should be exercised when using the AHIMS database to reach conclusions about site prevalence or distribution. For example, a lack of sites in a given area should not be seen as evidence that the area was not occupied by Aboriginal people. It may simply be an indication that it has not been inspected for Aboriginal cultural heritage or that the survey was undertaken in areas of poor surface visibility. There may also be significant errors with the data.

Table 2: Restricted AHIMS Sites.

Site	Recorder	Context
04-1-0018	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox	Open Site
04-1-0023	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox	Open Site
04-1-0028	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox	Open Site

Site	Recorder	Context
04-1-0030	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox	Open Site
04-1-0033	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox	Open Site
04-1-0034	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox	Open Site
04-1-0035	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox	Open Site
04-1-0037	Isabel McBryde,Mr.Ian Fox	Open Site
04-1-0091	Mr.Ian Fox	Open Site
04-2-0092	Mr Ian Fox	Open site
04-2-0098	Mr. Ian Fox	Open site
04-2-0099	Mr. Ian Fox	Open site

Table 3: AHIMS Sites not impacted by the Development Proposal.

ID	Name	Site Features	Recorder	Easting (GDA 94)	Northing (GDA 94)
04-1-0042	Mebbin Spring MS15	Modified Tree; Artefact	Doctor.Susan Mcintyre-Tamwoy	522006	6851389
04-1-0044	Mebbin Spring MS17	Modified Tree; Artefact	Doctor.Susan Mcintyre-Tamwoy	521006	6851389
04-1-0045	MS18	Artefact	Doctor.Susan Mcintyre-Tamwoy	521606	6853089
04-2-0061	Fingal	Artefact	Doctor.Susan Mcintyre-Tamwoy	523006	6850779
04-1-0070	Brays Creek	Earth Mound; Artefact	Mr.Adrian Piper	520606	6854219
04-1-0074	Byrill Creek Open Campsite, BMP-05-0068	Artefact	Mr.Adrian Piper,Mr.Ian Fox	520500	6854030

ID	Name	Site Features	Recorder	Easting (GDA 94)	Northing (GDA 94)
04-1-0075	Byrril Creek Grinding Groove, BMP-05-0067	Grinding Groove	Mr.Ian Fox	520380	6854270
04-1-0153	NV1 (Brays Creek)	Artefact	Mary Dallas	523082	6850887
04-1-0154	NV2 (Brays Creek)	Artefact	Mary Dallas	523127	6850714
04-1-0155	NV4 (Brays Creek)	Artefact	Mary Dallas	522773	6850523
04-1-0156	NV 5 (Brays Creek)	Artefact	Mary Dallas	522833	6850444
04-1-0157	NV IF1 (Brays Creek)	Artefact	Mary Dallas	522749	680436
04-1-0158	NV IF2	Artefact	Mary Dallas	523280	6850629
04-1-0159	NV PAD1	Potential Archaeological Deposit	Mary Dallas	523191	6850789
04-1-0164	Kungurloo 7 Tweed ACH Artefacts	Artefact	Mr.Ian Fox	522664	6852249
04-1-0165	Byrrill Creek 6 Tweed ACH Artefacts	Artefact	Mr.Ian Fox	521603	6854178
04-1-0195	Cadell Road Tweed ACH Artefacts	Artefact	Mr.Ian Fox	518288	6851497
04-1-0212	Mt. Terragon 3 Tweed ACH Story Place	Aboriginal Ceremony and Dreaming	Mr.Ian Fox	524466	6853050

Table 4: AHIMS Sites potentially impacted by the Proposal.

ID	Name	Site Features	Recorder	Easting (GDA 94)	Northing (GDA94)
04-1-0002	MS5	Artefact	Doctor.Susan Mcintyre-Tamwoy	521406	6850509
04-1-0036	MS9 Mebbin Springs; BMP-05-0047	Artefact	Isabel McBryde,Mr.Ian Fox	519106	6850089

ID	Name	Site Features	Recorder	Easting (GDA 94)	Northing (GDA94)
04-1-0039	MS12 Mebbin Springs (BMP-05-0050)	Artefact	Tweed Byron LALC,Doctor.Susan Mcintyre-Tamwoy	522607	6851590
04-1-0040	Mebbin Springs MS13	Modified Tree; Artefact	Doctor.Susan Mcintyre-Tamwoy	521106	6851989
04-1-0041	MS14	Artefact	Doctor.Susan Mcintyre-Tamwoy	521706	6851289
04-1-0043	MS16	Artefact	Doctor.Susan Mcintyre-Tamwoy	521806	6850889

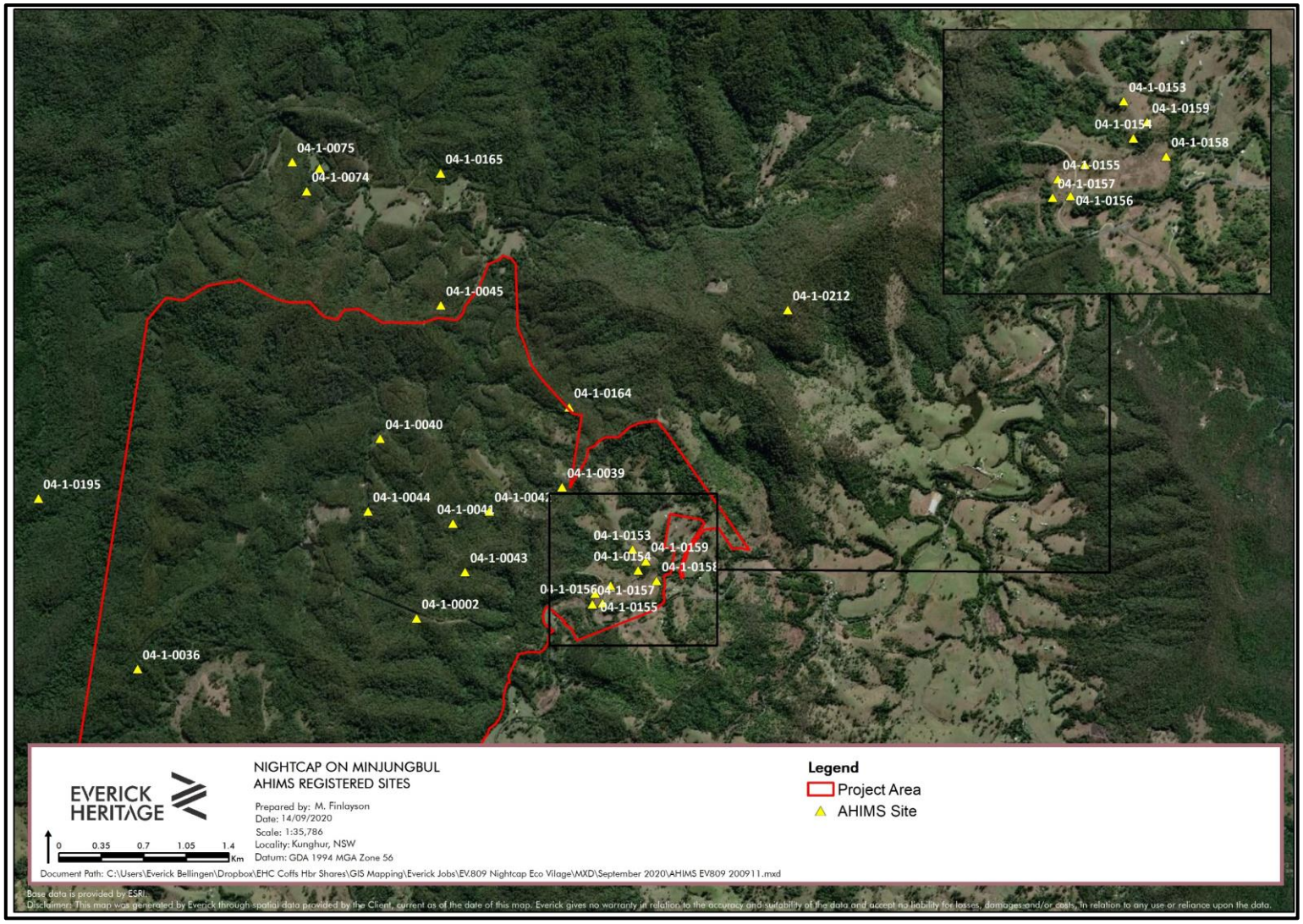
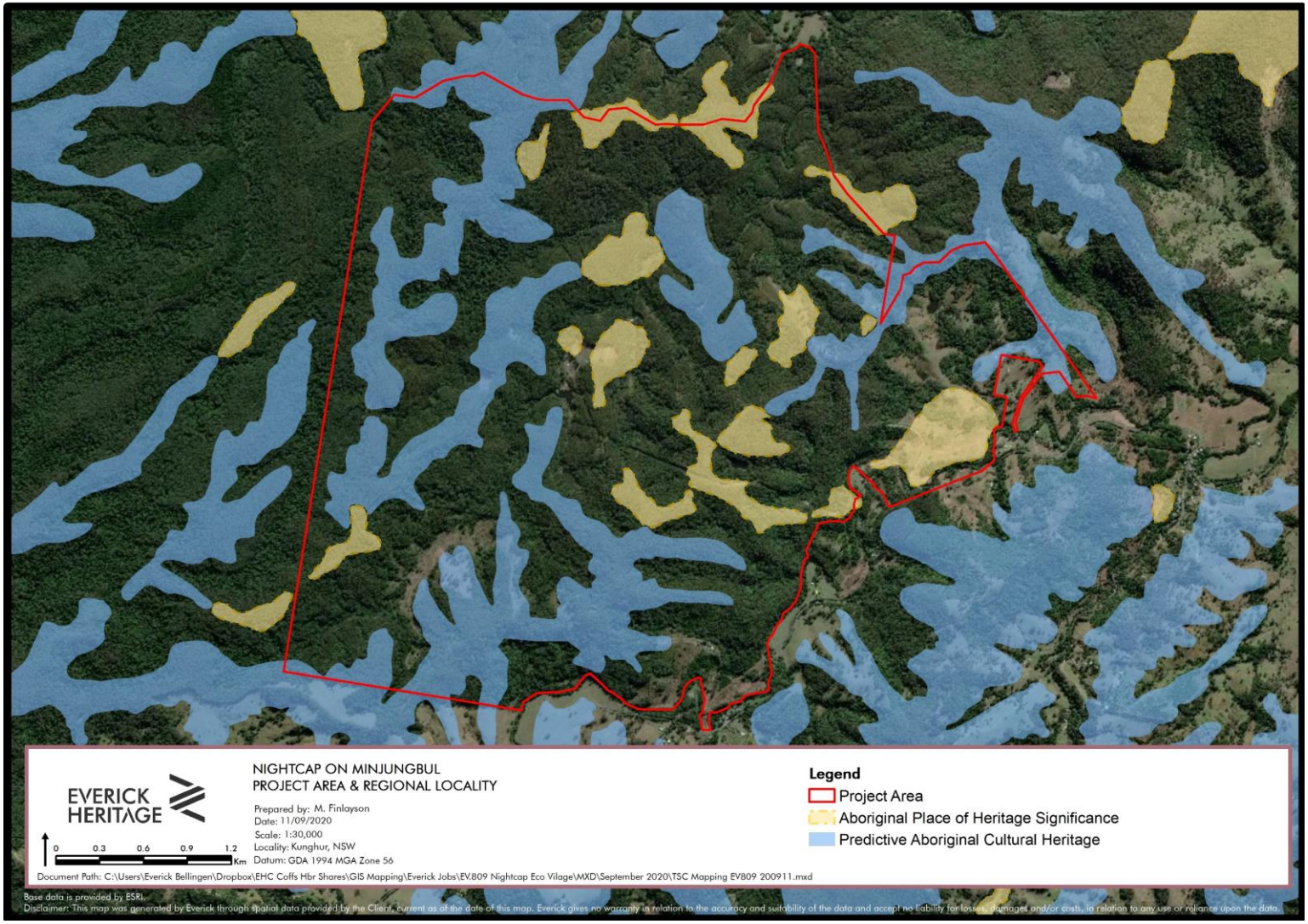


Figure 6: AHIMS Site locations.

5.2. Other Heritage Registers: Indigenous & Historic Cultural Heritage

The following heritage registers were accessed on 06 April 2018:

- **The National Heritage List (Australian Heritage Council):** Contains no Aboriginal heritage listings within or within close proximity to the Project Area.
- **Commonwealth Heritage List (Australian Heritage Council):** Contains no Aboriginal heritage listings within or within close proximity to the Project Area.
- **Register of the National Estate (Australian Heritage Council):** Contains no Aboriginal heritage listings within or within close proximity to the Project Area.
- **The State Heritage Register:**
    i. contains no Aboriginal heritage listings in Section 1 (Items listed under the NPW Act as Aboriginal Places) within or within close proximity to the Project Area;
    ii. contains no Aboriginal heritage listings in Section 2 (Items listed under the NSW Heritage Act) within or within close proximity to the Project Area;
    iii. contains no Aboriginal heritage listings in Section 3 (Items listed by Local Government and State Agencies) within or within close proximity to the Project Area.
- **Tweed LEP (2014):** Contains no Aboriginal heritage listings within or within close proximity to the Project Area.
- **Tweed Shire Council Aboriginal Cultural Heritage Management Plan (TSCACHMP 2017):** is a data base, where on the basis of landscape and topography, areas are designated as Actual heritage for known sites (see yellow polygons in Figure 7 below) and Predictive for the potential presence of Aboriginal Cultural Heritage)see blue polygons in Figure 7 below). A search of the ACHMP in relation to the Project area indicates that there is known heritage over a significant portion of the Project Area and the potential for Aboriginal heritage over approximately 50% of the landforms of the Project Area (see Figure 7).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NIGHTCAP ON MINJUNGBUL
PROJECT AREA & REGIONAL LOCALITY
Prepared by: M. Finlayson
Date: 11/09/2020
Scale: 1:30,000
Locality: Kunghur, NSW
Datum: GDA 1994 MGA Zone 56
Legend
Project Area
Aboriginal Place of Heritage Significance
Predictive Aboriginal Cultural Heritage
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Base data is provided by ESRI.
Disclaimer: This map was generated by Everick through spatial data provided by the Client, current as of the date of this map. Everick gives no warranty in relation to the accuracy and suitability of the data and accept no liability for losses, damages and/or costs, in relation to any use or reliance upon the data.

Figure 7: Tweed Shire Council ACHMP mapping.

6. CULTURAL CONTEXT

6.1. Ethnographic Sources

There is little agreement as to the names or use of the terms tribe, clan and dialects. However, it is safe to say that traditional inhabitants of the upper Tweed were part of a larger linguistic group, the Bundjalung, which spoke a range of closely linked dialects in the area between the Upper Clarence extending west to Tenterfield, Warwick and Beaudesert joining the coast at about Beenleigh.

Dialect groups and sub-clans composed of interlinked family groups occupied distinct areas within the wider Bundjalung association. Land belonged to individual clans whose territorial boundaries had been established in mythology (Creamer 1974). Crowley (1978) and Tindale (1974: 191) both recognised the shared spoken coastal dialect which they each termed Minyangbal and Minjanbal respectively, though they differed slightly on the geographical boundary of the dialect. Fox (2006: 8), citing his works with traditional owners, argues that Ngandowal (derived from Crowleys Nganduwal) is the correct name of the Tweed language.

Clan groups identified for the region include the Coodjingburra (Bray 1901) and Tul-gi-gin (Harper in Keats 1988: 74 and Fox 2006 7-8). Joshua Bray a local magistrate whose brother in law S. W. Gray was lease holder (1840's) of the grazing lease Wollumban, that covered the Mebbin locality, referred to the Aboriginal group as the Moorung- Moobar tribe, who had all north of the north arm of the Tweed to McPhersons Range (Bray 1901: 9). Adjoining the Moorung-Moobar to the west of the Richmond Tweed divide are the Richmond River Wiyabal.

Based on the most recent regional models (Godwin 1999 and Byrne 1987) the Project Area is located within the sub-coastal zone and formed part of the larger big scrub rainforest, which whilst utilised by Aboriginal people was not utilised for occupation in the same manner as the more resource rich riverine floodplains, coastal estuaries, coastal plains and beaches. Whilst it is known that Aboriginal people did utilise the resources of rainforests and tall closed forests this use is typically targeted at selected species and does not have a significant archaeological signature.

Byrne (1987) developed a state-wide land use model specifically around the use and occupation of rainforests. Byrne distinguishes between the 'Lowland' and 'Upland' rainforests and proposes;

> …The lowland rainforests were situated within what might be termed the core areas of the coastal lowland tribes. The North Coast of New South Wales supported some of the heaviest populations

> of Aborigines in the prehistoric Australia. The foci of settlement of these tribes were the immediate coastal strip, the estuaries and valleys of the major rivers. The key attribute of the lowland rainforests was their proximity to the main areas of settlement and, hence, the accessibility of their resources…Most of these rainforests could be exploited from bases in other and neighbouring environments. It is likely that major campsites were located close to the productive margins of these rainforests. Campsites may also have been situated in clearings within rainforests where they acted as bases for the exploitation of core areas of extensive forests and as staging camps for travel through such forests… (Byrne 1987:54, 55).

The use of clearings otherwise surrounded by rainforest as campgrounds was originally documented by Leycester on a trip into the Richmond Tweed headwaters in 1880. He refers to two clearings a dinner time camp at 'Bald Hill' called by the blacks Byangully, "…replete with every comfort a bush camp in Australia could afford, that of grass, water, and game in abundance of the best kind…" twenty miles distant from open country and Tanning Mountain "…a table-top covered with fine grass…" (Leycester 1880: Typescript). Similar clearings are believed to be recognised in local place names Howards Grass, Lagoon Grass and Chilcotts Grass.

The resources of sub-tropical rainforest were used extensively in the technology of the Tweed and Richmond, which is heavily dependent on wood and bark fibre (McBryde 1978:197). McBryde's sources refer to shields (McFarlane 1934; Dawson 1935), single point fire-hardened spears, three types of boomerang (Dawson1935), clubs-nulla nulla and pademelon sticks, bark and palm leaf bags, wooden water vessels, possum rugs, cane and shell necklaces and stone knives (Bundock 1898). Bark was used for containers and shelter. Stone axes are referred to by Dawson (1935:22) and Byrne (1946:2). Fishing nets and rope was made from twine spun from the flame tree (Byrne ibid). Fishing nets were made a couple of yards long with a stick at each end used individually or in combination with many of the same (Seymour in Piper 1976). Bundock (1898) and Ainsworth (1922) described the same type of nets used for game drives in rainforests.

An indication of the importance of rainforest foods and material resources can be synthesised from 'Records of Times Past' dealing with ethno history (Sullivan: 101, Pierce: 115) and Museum Collections from the Richmond River District, edited by Isabel McBryde (1978). Items of material equipment and weapons fashioned from rain forest materials includes water carrying vessels (Bangalow Palm), string bag, woven bag (Stinging tree), shield (Stinging tree), nets (Stinging tree) tow row (Stinging tree, lawyer cane), axe handles (lawyer cane), necklets (lawyer cane, shelter supports (lawyer cane), cane bugles (lawyer cane) cordage (Stinging tree, fig tree), clubs (Black bean). Food sources: possums, paddymelon, bandicoot, Moreton Bay Chestnut, cunjevoi, macadamia, wild grapes, Burrawang tree or palm, wild

cherries. The above items are only those gleaned from the authors Richmond River sources and do not include many other foods e.g. rainforest birds and resources e.g. medicinal plants.

The most detailed analysis of material culture of the North Coast has been that undertaken by McBryde (1978) much of which was reliant upon rainforest woods and fibres. The region of the Tweed, Richmond and Clarence Rivers would seem to form a distinct unit. This is particularly so in the case of fishing technology. The multi-pronged fishing spear and the shellfish hook are both absent from this region. Fish were caught in nets or speared in the shallows (McBryde 1978:187). Spears were single pointed fire hardened weapons (Dawson 1935: 22), of both a lighter and heavier variety (Byrne 1946: 3). Neither the woomera nor the spear throwing stick were used in this region (Dawson ibid). The range of materials is considered wider than central Australian tribes with fewer all-purpose items, few composite tools and a number of specialised ones. This may reflect a more sedentary life style in a rich environment requiring fewer specialised tools (Ibid: 187). The stone tool element in the material culture was small and unspecialised. The archaeological evidence suggests changes to a simpler stone technology took place only centuries before European settlement. The stone tools in use immediately prior to European settlement, '… show little typological sophistication and did not demand highly skilled craftsmanship' (Ibid: 198).

Aboriginal land use models based on ethnographic sources identify broad patterns of settlement and movement in the region and are useful but not conclusive in predicting the potential nature of archaeological remains within the Project Area. McBryde (1974) proposes that groups ranged between the sea coast and foothills of the coastal ranges on a seasonal basis (i.e. McBryde 1974) utilising the immediate coast and main rivers as the focus of occupation. Early sources support this view to some extent as there are records describing the movement of inland groups of the Clarence River to the coast during winter (McFarlane1934; Dawson 1935:25).

Coleman (1982) proposes an alternate model where it is suggested that movement of coastal people was not frequent, and that semi sedentary groups moved north and south within the coastal plain rather than to the upper rivers (Coleman 1982).

Godwin (1999) argues that neither of the above 'models' is supported by the archaeological record and that local conditions dictated exploitation strategies on the north coast of NSW. In this model:

> Sub-coastal groups journeyed to the coast, but only in small numbers: there was not the large-scale migration of people posited by McBryde. The data suggests that this took place throughout the year and could have been for both ritual and secular reasons. Groups also journeyed through the "Falls" country throughout the year. There are also reports of movement in a north-south

direction along the sub-coastal strip from river valley to river valley, and from the sub-coastal zone to the tablelands which appears to have been associated with ceremonial gatherings. These ranged from clan-sized gatherings through to inter-tribal meetings (Godwin 1999:123)

6.2. Prehistory

Evidence for occupation of coastal N. S. W. and QLD is dated into the Pleistocene at Wallen Wallen Creek on North Stradbroke Island where an occupation phase between 20560 ± 250 years and the early Holocene period is evident. Analysis of faunal materials from the site suggests an economy initially based upon the hunting of terrestrial fauna changed to one based upon a reliance on marine fish and shellfish which may reflect changing local ecologies caused by gradual rises in sea levels during the late Pleistocene (Neal and Stock 1986).

Coastal sites in northern NSW typically date to within the Holocene period. The earliest of these is a shell midden at the base of East Banora Point on the lower Tweed River where an occupation phase was dated between 4,700 BP and 4,200 BP (Appleton 1993:34). Faunal material showed a predominance of oyster, cockle and whelk by volume, in addition to remains of pademelon, kangaroo, bream, whiting, flathead and schnapper. The stone component exhibited few diagnostic traits, only four artefacts appearing to be of a deliberately manufactured shape (Appleton 1993:17-18).

Excavations at the Bushrangers Cave at the head of the Numinbah and Tweed Valleys (elevation c. 700m AHD) indicate people began to use the shelter about 10,000 years ago. The cave's occupants exploited rainforest food sources present today namely, pademelons, possums and pythons together with regular consumption of crayfish and bush turkey eggs (Ulm and Hall 1996:45-62).

An archaeological test excavation at a site in relation to the Tugan Bypass (Zone 7) produced an assemblage of 388 stone artefacts and 132 manuports (or otherwise unidentifiable fragments) from 28 excavation squares. These comprised 26 assemblage elements (or different categories of stone artefacts) and 12 varieties of raw material (Ozark 2006b:28). The site was considered to possess a number of unusual features: the richness of the assemblage was high; the site was intact and showed patterning that could indicate an intact cultural stratigraphy; the number of backed blades point to areas of the site likely used as knapping floors for backed artefacts (an extremely rare find in the region), the preponderance of large red, yellow and black ochre crayons with abundant signs of use suggest decorative activities were an important part of the use of the site (Ozark 2006b:52-53). A radiocarbon determination of a charcoal sample returned a relatively modern age for the site at 298 BP (or c. 1600AD) (Ozark 2006b:50).

A subsequent salvage excavation programme at pier construction impact points over the Tugan Bypass (Zone 7) site produced 389 stone artefacts from 24 excavation squares comprising 12 classes of artefacts on nine types of raw materials. From the mean artefact density of the 1x1 m excavated squares it was estimated that 76,418 artefacts and ochre fragments were contained in the pier cluster areas (Ozark 2007:29,30). A radiocarbon determination of 7,258 BP was obtained from a charcoal sample. However the authors urged caution in accepting the date as one that necessarily related to Aboriginal occupation as there were no intact archaeological features from which a date could be obtained. Early dates (9,000 – 15,000 years ago) are referenced in the report as a possible context for the Tugun sites if the date can be accepted (Ozark 2007:37).

6.3. Previous Archaeological / Cultural Heritage Assessments

The purpose of a review of previous archaeological and cultural heritage assessments *"… is to provide a context and baseline for what is known about Aboriginal cultural heritage in the subject area. This contributes to the assessment of archaeological significance of the proposed development area."* (COPAI:2010 6).

Numbers of studies of the Aboriginal cultural significance of the surrounding landforms particularly the 'Mount Warning Complex' indicate that lands in close proximity to the Project Area contain sites of a high, indeed sacred significance, to the local and regional Aboriginal community. The previous assessments are both archaeological in their sampling strategies and methodology in addition to more recent cultural heritage assessments, that draw conclusions as to significance from traditional owner informants as well as archaeological findings.

McIntyre (1984) recorded fourteen sites in an assessment of the 'Mebbin Springs' development which adjoins the Project area in the south east sector. The assessment appears to have ranged into the ridges falling from the Tweed Range and the flats of Kunghurloo Creek using the same major tracks of the Mebbin State Forest track system that exists today. However given personal experience in this locality and the fact that it is thirty five years since Sue McIntyre conducted her assessment it is probable that many of the minor tracks and snigging tracks on which Aboriginal heritage was recorded are now overgrown or eroded beyond use.

The 1984 archaeological assessment found thirteen artefact scatters (or open campsites in the terminology of the time) and three scarred trees (modified trees today) in total. As best that can be determined from the data provided, the three modified trees are located on the ridges of the main track system. The thirteen artefact sites are distributed on the ridge crest but also on the upper slopes.

Byrne (1987) conducted a field and desktop study of the potential for NSW State Forests to contain Aboriginal sites. Two mythological sites associated with ancestral beings at Mt. Warning and Mt. Burrell (Blue Knob) were recorded among other natural features of mythological/spiritual significance. He observed that the Mebbin State Forest was peripheral to the Tweed lowlands and also at the foot of the Tweed Range and cannot be termed upland country.

Byrne proposed a land use model that distinguished between coastal lowland rainforests and mountain range or upland rainforests. In the case of upland forests: the pattern of land use is likely to have been small scale and intermittent: small, highly mobile groups travelling between overnight camps and operating from base camps in the river valleys…lines of movement in the uplands country are likely to have followed watercourses …or the tops of ridges. Small campsites would be located along lines of movement either in the open or nearby rock shelters. In the case of ridgeline camps they are more likely to be in wet or dry sclerophyll rather than rainforest (Byrne 1987:55).

Byrne compiled information on a range of Aboriginal sites in the 'Tweed volcano' and upper Richmond Range areas including; sacred significant sites, archaeological occupation sites, bora grounds, stone arrangements and burials (Ibid pp 60, 70). Interestingly he refers to the sites identified by McIntyre as situated in open country once covered with wet and eucalypt forests on what is effectively the valley floor in this part of the Tweed Valley. The description 'open country' would hardly be accurate today.

The main concentration of Aboriginal sites in the vicinity of the Project area is on the lower slopes to the Tweed River between the Mandalay Road and Outward Bound entrances, where a number of small rural Lots are situated (Figure 5). The Aboriginal sites comprise two isolated artefact sites, four artefact scatters (artefacts # 2-9) and one PAD. Unless development proposals change, these sites are not within the development footprint and will not be included in the field assessment.

Sutton and Godwin (undated c1986-87) compiled a desk top appraisal of the archaeological significance of Mt Nullum. Their predictive model proposed that in view of high Aboriginal population densities and long periods of occupation the Mt Nullum area would have a potentially high archaeological sensitivity. It predicted that open campsites would be situated on the river flats at the base of the mountain, rock shelters with occupation deposits and art may occur in overhangs on the mountain slopes, artefact scatters on level ridges and saddles, ceremonial sites may occur on the uppermost plateau. Sutton and Godwin c 1986-87:18-19).

Heron and Reed (1996) conducted a study of Aboriginal archaeological and anthropological values of the Murwilllumbah Management Area commissioned by State Forests of NSW Northern Region, supported by the Tweed Byron LALC and Ngulingah LALC. The study explores a very wide range of

aspects of Bundjalung life from physical environment, regional mythology, the cycle of life and the significance of sites, with particular reference to State Forest Management areas Whian Whian Forest, Lost Valley, Mt Warning and Mebbin National Park.

The study acknowledges the 'place' of predictive models for Aboriginal sites but cautions that in the case of campsites, past changes in climate and past seasonal variations may have caused changes to topography, hydrology, flora and flora and therefore to the locations and contents of sites which would not or could not be encompassed within a predictive model based on visible ground conditions today (Heron and Reed 1996:29). None of the predictive models have been tested by further archaeological investigation.

Heron's section on Mebbin (9.3) refers to areas of Aboriginal significance and sensitivity, naming natural features such as Bar Mountain, Hanging Rock, the 'Pinnacle' (also called Pinnacle Hill) as being culturally significant. He was of the view that the area of the Richmond Tweed divide, is both significant to the Richmond Wiabal (Wiyabal) clans and other groups in the area (Heron Reed: 36).

Navin Officer (2018) conducted an archaeological and cultural heritage assessment with the TBLALC over the Clarrie Hall Dam inundation area in the Doon Doon Valley a short distance to the east of the Project Area. The assessment identified sixty unidentified and unregistered sites, comprising thirty-three isolated finds (single stone artefacts), 21 stone artefact scatters, two grinding grooves, a possible scarred or modified tree, a possible knapping resource of chalcedony stone, a rock shelter with Aboriginal occupation deposit and one culturally restricted site. The assessment also identified 10 locations of Potential Archaeological Deposits, where sub-surface cultural materials are believed to be concealed. It is not known yet, that the sub-surface investigations have been completed for this project (Navin Officer 2018: 35-36).

To make useful comparisons between the results of assessments in similar regional/local contexts and in close proximity to each other, a number of variables need to be considered. These may include and not be limited to the extent and type of development proposal, landform and landform sub elements, (often referred to as survey units), ground surface visibility, erosion and sedimentation, land uses and the number and skills of the personnel involved. Within each of the above broad categories a sub set of variables might be considered, for example landform: geology, topography, soils and vegetation. The Clarrie Hall Dam assessment sampled five broad landform elements: crest, mid slope, basal slope, drainage lines, streams and back channel zones.

The current project is far more limited in terms of the nexus between land form elements and Aboriginal cultural heritage. Basal slopes, drainage lines and stream back channel zones can be excluded from

consideration under the current masterplan (see Figure 1), leaving crests and mid slopes (to a minor degree), as elements common to the current assessment and the Clarrie Hall Dam assessment. In the Clarrie Hall Dam study crests occupied 14% of the assessment area and mid slopes 40% of the assessment area. These landforms were found to contain 85% of Aboriginal sites and 95% of Aboriginal stone artefacts respectively (Ibid: 159, 165). Whilst the study made no distinction as to whether the crest is a ridge crest, spur crest or hill crest, the study found that level to undulating elevations are by far the most common locations for Aboriginal sites.

By far the majority of the dwellings under the Proposed Works are sited on the ecotone between ridge crests and upper slopes. Therefore, it can be expected that in this case ridge crests and spur crests will be the greatest proportion of area searched for Aboriginal sites. Slopes will be a minor proportion as proposed dwelling sites are almost all at the higher elevations. Access to water and views to culturally significant places are also given as determining factors for Aboriginal people in selecting a permanent campsite. The 'cultural visual catchment' cannot usually be confirmed by the archaeologist when assessing the significance of a site unless confirmed by a traditional owner or elder. The criteria views to significant cultural heritage sites is one used under the Tweed Shire ACHMP for its predictive land form mapping of potential Aboriginal sites.

Everick Heritage (2018) investigated by excavation a ridgeline/spur emanating from Mt Burrell toward Nimbin. The archaeological excavation identified a total of five Aboriginal 'sites' within the Project Area. These sites coincided with the main ridge crests which were the focus of the excavation program. The maximum density of artefacts was identified at Crofton Road 01 (test pit 1/3 =16m2). The artefacts were typically located immediately above the compact basal clays, which is not uncommon on agricultural soil profiles. The Aboriginal sites predominately comprised stone flaked pieces (Flake piece n=58; flake n=1; core n=1 and chopper n=1) from a variety of raw material sources, being mostly cherts and silcrete (chert n=41; silcrete n=19 and basalt n=1).

The report concludes that "…there is sufficient density of artefacts retained to understand broader patterns of land use and economy. In particular, there was a relationship between ridge line size, particularly width, and the density of stone artefacts. The results of the excavation show that the width of the ridge was a better indicator of the nature and extent of archaeological sites than distance to water. Aspect and views to known mythological sites were also considered during the study and it would appear that this is secondary to the ridge crest width. The difference in artefact density may in part be due to the requirements of larger spaces for semi-permanent camps…" (Everick Heritage: 3).

In summary what can be taken from the above review of a selection of reports in similar landscape contexts to the Project area is, hill crest, ridge crests and low spur crest were favoured locations for

Aboriginal campsites. This is not surprising as the lower elevations around the margins of watercourses, sheltered areas and lower/basil slopes were rain forested and unlikely campsites. Immediate access to water does not necessarily appear to be a primary determinant as to site selection. Higher ridgeline sites may not have practical access to water which suggests their use was more likely transitory and their use reflected in only small scatters of stone artefacts and isolated stone artefacts. Mid slopes may have been favoured areas as the Clarrie Hall Dam study found, however across the board comparisons cannot be made without knowing the gradients of the particular mid slopes.

6.4. Predictive Mapping: Due Diligence Code of Practice

There are a number of criteria by which the potential of a landscape to contain Aboriginal sites or cultural places should be assessed. These are broadly outlined in the Due Diligence Code of Practice as areas:

- within 200 m of waters;
- or located within a sand dune system;
- or located on a ridge top, ridge line or headland;
- or located within 200 m below or above a cliff face, or within 20 m of or in a cave, rock shelter, or a cave mouth; and
- is on land that is not disturbed land.

Having consideration for these environments it is reasonable to conclude that the Project Area has the potential to contain Aboriginal objects (sites) on the basis that a network of ridge lines and spurs radiate through the property. The mid slopes of the ridges are generally too steep to consider as campsite options or sites such as bora/ceremonial areas which require level ground. Steepness does not preclude other Aboriginal sites such as modified trees, quarries, grinding grooves and certainly not natural mythological/spiritual sites.

Associations between ridge line sites in terms of their contemporaneousness and contents, has not been tested by archaeological investigation. While ridge lines may have served as transit corridors for Aboriginal groups on a sporadic basis their use as campsites would have been dependent upon other factors apart from slope, such as shelter from wind, ground covers, dryness, access to water, material and food resources.

Aboriginal sites are more likely in higher wet or dry sclerophyll conditions than rainforests. Heron cautions that in the case of predictive models for ridge line sites, seasonal variations and changes to ground

conditions over long periods of time, may mean there are not necessarily links between visible sites and that movement in soil conditions may have caused more ancient sites to slump and move down slope (Heron 1996: 29).

The use of ridge lines as transit corridors between river valleys and major tributaries within those systems is advanced by many cultural heritage consultants throughout eastern Australia, including in the local context, Byrne (1987), McIntyre (1984) Sutton and Godwin (undated ca 1986-87), Heron and Reed (1996) and Fox (2003). In the ridge line landform context archaeological evidence most commonly consists of, stone artefact scatters, scarred trees and isolated artefacts in 'open' situations and may include the use of nearby overhangs/rock shelters/caves. Areas where there is believed to be potential evidence of Aboriginal use concealed beneath the surface and not necessarily visible, are termed Potential Archaeological Deposits (PADS).

Isolated artefacts will consist of single stone artefacts, which may have been randomly discarded during fabrication or due to breakage. They may occur in almost any environmental context exploited by Aboriginal people. Archaeologists refer to the random distribution of isolated Aboriginal artefacts throughout the landscape as 'background scatter', which as the term implies there is no systematic means of detection. Artefact scatters are invariably found in elevated positions adjacent to creeks or wetlands. They may also be found on ridge crests or spurs used for transitory purposes.

The majority of **scarred** or **modified trees** on the North Coast of NSW result from the removal of bark for use as covering, shields, containers or canoes. There may also be carved trees where the bark has been removed and geometric patterns incised on the tap wood. Modified tree sites in this locality are rare due to the extent of early forest clearing, forestry practices (Section 4.3) and the natural aging and collapse of such trees that may have survived.

The volcanic geology of the Tweed and Richmond contains a wide range of siliceous, meta-sedimentary and igneous rock suitable to Aboriginal stone tool fabrication. These may occur as outcrops, or as suitable pebbles or pieces collected opportunistically from stream beds. Where an outcrop is exploited it is called a quarry. A stone quarry in this general locality may occur where a source of opaline silica exists, as reported at Tintenbar (Collins 1996 :31) Lennox Head, or where other siliceous types of stone occur (e.g. chert, chalcedony and silcrete). Aboriginal quarries where greywacke has been exploited are found on Tweed Coast headlands and coastal hills.

The survivability and detection of this range of Aboriginal sites in the context of the Project Area is very much influenced by previous state and commercial forestry practices. The great majority of proposed

dwelling sites and their access roads are in areas of plantation forest that have been disturbed or highly disturbed by mechanical methods.

6.5. Historical Background

European recorded history begins in the Mebbin/Kunghur area with the leasing of grazing lands, of which there was little, by pastoralists. Grazing runs Upper Walumban (16000 acres) and Walumban occupied all of the upper Tweed west of Mt Wollumbin leased by J.S. Johnson in 1845 and later S.W.Grey in 1867. It is thought these 'Runs' were accessed by cut track from the upper Richmond (Keats 1988 381). While it was considered the Tweed was covered in rainforest unsuitable to grazing, there were grassed areas in the upper Tweed, reflected in the name Walumban Plain which may have been in the Tyalgum/Brays Creek area. Other than limited grazing opportunities cedar 'getting' was the main commercial pursuit.

On the Tweed River the continuous harvest and transport of cedar commenced in 1844, when two parties of cedar cutters led by John Burgess and Paddy Smith arrived from Moreton Bay, where supplies of easily accessible cedar were diminishing. Some spasmodic attempts to take cedar from the Tweed had occurred many years before, and some Tweed River cedar appears to have been rafted to Moreton Bay as early as 1829 (Keats 1988:184, 197).The Taranora cedar camp was the first settlement established on the Tweed. It was located along today's Dry Dock Road, on the southern side of the Terranora Inlet, which links the river to the Terranora Broadwater. The largest annual shipment to come out of the Tweed valley was 739,000 super feet, in 1858. This was followed by several quiet years, and then in the 1860s there was another resurgence in yield as free selectors harvested the remaining cedar on their blocks (Keats1988:247). In 1870 the final downturn in harvest commenced (NSW CRA/RFA 1998: 26).

The first selections of land under the Robertson Land Acts of 1861 did not occur on the Tweed until 1866 (Keats 1988: 92) concentrated on the Terranora and Tweed River flats. The advent of small farms or selections as they were called began the destruction of the Aboriginal physical environment with the rapid clearing of forest in the name of improvements. The 'Big Scrub' a vast tract of forest was essentially cleared by the 1880's. Farmers on small allotments originally sold the timber from their land, on the lower reaches sugar cane became profitable with the establishment of a mill at Condong. However on the upper reaches of the Tweed dairying was the mainstay of primary industry which required forest clearing for grasslands. The earlier selections on the upper Tweed appear to be in the early nineteen hundreds. Much of the higher country of the Tweed and Nightcap Ranges was taken up by State Forests (Nullum and Mebbin SF).

7. ABORIGINAL CULTURAL HERITAGE FIELD ASSESSMENT

7.1. Survey Team

The Project Area is within the area administered for Aboriginal Cultural Heritage purposes by the TBLALC. A pedestrian survey of the Project Area was undertaken by Sites Officer Warren Phillips, Maurice Gannon Conservation Planning Officer TBLALC and Adrian Piper of Everick on 10, 11, 14, 15 and 16 January 2019; March 6, 7 and 8 2019 to cover the 'Bhula Bhula' section and 16 September 2020 by Adrian Piper to assess the Stage 1 road works off Kyogle Road.

7.2. Survey Strategy and Conditions

The archaeological field survey was targeted at inspecting the areas which were considered to have increased Aboriginal archaeological potential based on the predictive model from the review of previous studies and the results of the AHIMS search. The archaeological or scientific aim of the cultural survey was to locate physical evidence of Aboriginal occupation the evidence of which is most commonly stone artefact scatters; individual (isolated) artefacts; shell debris and in clear ground situations traces of bone (human and animal) and ash-stained earth that might represent fireplaces. Woodland areas or isolated 'old growth' trees would be inspected for evidence of Aboriginal scarring due to bark removal or holes/notches cut into bark and tap wood. Other features such as rock scree slopes would be inspected for evidence of Aboriginal stone extraction.

Historic Heritage might be expected in the form of buildings, timber fencing, tree plantings and the remains of State forestry instillations.

The assessment also aims to establish if there are sites or areas of a non-archaeological nature significant to the Aboriginal community. At this stage of the assessment, if required, this would be through consultation with TBLALC. The desktop predictive modelling (Sections 5.3, 5.4) suggests that potentially, archaeological sites would be found on level or gentle slopes on the ridge crests, hill crests and spur crests.

All of the dwelling sites within the Project Area are located on the ridges overlooking the Tweed River to the south and the catchment of Kunghurloo Creek to the north and north-west. Each dwelling site is accessible from either a bitumen roads or dirt track. Mebbin Road, Lemon Tree Road, Plantation Road

and O'Briens Road provide access to the central, western and south western sectors of the Project. An overview of the main landform features included within the assessment.

Completion of a field survey of each of the approximate 392 dwelling sites was considered impractical by the survey team. Without exception the proposed sites are in regrowth sclerophyll or plantation forest, heavily covered in undergrowth, leaf and deadfall where surface visibility is nil. In accordance with the outcomes of consultation with the TBLALC it was agreed that the only practical strategy for assessing Aboriginal Cultural Heritage was to inspect cleared ground on or next to the track system closest to the dwelling sites.

Where it could be determined that sites recorded and registered with the AHIMS by previous consultants could be impacted by the proposal it was the intention to locate and investigate the nature and extent of these sites where vegetation or access conditions allowed. Movement was by vehicle on steeper grades and walking on level or undulating ground. The inspection was carried out by three persons with two walking either side of the tracks and the third recording.

For the purpose of survey coverage and description, the Project Area has been divided into linear survey units which generally reflect the Proponents intention to place dwellings on ridge crests, spur crests and to a lesser degree middle slopes.

Given the extent of the Project Area, for the purposes of the survey, broad scale units were employed to better define the searched areas. The survey units are as follows:

- Survey Unit 1. Slopes falling to the Tweed River being parts of the 'Misty Mountain' camping/education facility.
- Survey Unit 2. Ridge crest and spurs separating the Tweed River and Kunghurloo Creek catchments (Outbound Track).
- Survey Unit 3. Spur crest to Central Hill, Kunghurloo Creek catchment (Plantation Road).
- Survey Unit 4. Spur crests, Kunghurloo Creek catchment.
- Survey Unit 5. Ridge crest, Kunghurloo Creek catchment.
- Survey Unit 6. Ridge crest and spurs, Kunghurloo Creek catchment (Lemon Tree Road)
- Survey Unit 7. Ridge crest / spur, Kunghurloo Creek catchment (Mebbin Road).
- Survey Unit 8. Linking slopes between SU 6 and 7.
- Survey Unit 9. Spur crest, Kunghurloo Creek catchment.
- Survey Unit 10. Spur crest, Kunghurloo Creek catchment.

- Survey Unit 11. Ridge crest, O'Briens Road, separating the Tweed River and Kunghurloo Creek catchments.
- Survey Unit 12. Side slopes off O'Briens Road, Tweed River catchment.
- Survey Unit 13. Spur crest, Kunghurloo Creek catchment.
- Survey Unit 14. Spur crest, Kunghurloo Creek catchment.
- Survey Unit 15. Spur crest/slopes, Kunghurloo Creek catchment.
- Survey Unit 16. Stream flats (Utilities site) Kunghurloo Creek catchment.
- Survey Unit 17. Stage 1 works adjacent to Kyogle Road.

7.3. Assessment Methods

The assessment methods aimed to inspect exposed ground surfaces as conditions would allow; to record any archaeological material found and assess its significance; and assess the potential for concealed Aboriginal archaeological sites. Photographs were taken as a record of general features and conditions and to document the degree of surface visibility. Notes were made of the degree of surface visibility, the area of visibility, ground cover, land uses and any other relevant features. A handheld GPS (GDA 94 datum) was used to record locations of sites found, the extent of survey coverage except where fence lines, google and topographic mapping provided clear reference points.

7.4. Constraints to Site Detection

An assessment of the constraints to site detection is made to assist in formulating a view as to the effectiveness of the field inspection to locate Aboriginal sites and cultural materials. It also assists in the forming of a view of the likelihood of concealed sites keeping in mind a site-specific knowledge of the impacts that European land uses and natural processes may have had on the 'survivability' of Aboriginal sites in the Project Area.

The constraints to site detection are almost always most influenced by post European settlement land uses and in some areas by natural erosion processes. The area of surface exposure and the degree of surface visibility within exposed surfaces are usually the product of 'recent' land uses e.g. ploughing, road construction, natural erosion and accelerated (manmade) erosion (McDonald et al 1990:92). Road or track construction and plantation forestry are the main 'agents' of disturbance and constraints to the detection of Aboriginal sites in the Project Area.

The review of land uses (Section 4.3) concluded that all of the land within the Project Area has been subject to a high degree of historic and recent ground disturbance that would be highly destructive to Aboriginal sites had they existed.

7.5. Survey Coverage

To achieve as thorough and effective an archaeological assessment as possible a systematic ground survey of all surfaces is the best method to achieve effective coverage. However, in the Project Area the

low surface visibility conditions due to heavy ground covers over the proposed dwelling sites, dictated that a systematic grid pattern of search would be impractical.

Therefore, an opportunistic search was conducted with a particular focus on any exposed ground surfaces as near the dwelling sites as conditions allowed. Soil exposures were limited to dirt roads and tracks generally within short distances to the tracks. With three members in the search team, an effective coverage of linear tracks can be reasonably assured. A survey for items of historic heritage was conducted concurrently with the Aboriginal Cultural Heritage assessment.

Table 5 presents information on the extent to which survey data provides sufficient evidence for an evaluation of the distribution of Aboriginal archaeological materials across those landforms and survey units. The effective survey coverage for the ridge crests, spur ridge crests and linking slopes was generally high in most part due to the visibility provided by the access tracks. Based on the assessment of survey coverage it is reasonable to proceed with the assessment on the basis that the survey was not significantly constrained and that Aboriginal sites, should they be present, would in most cased be at least partially identified by the survey.

Table 5: Summary of Survey Coverage by Survey Unit

Survey Unit	Landform element	Survey Unit Area (m2)	Visibility %	Exposure %	Effective Coverage (m2)	Effective Coverage (%)
1	Side slopes 'Misty Mountain'	13720	10	50	686	5
2	Ridge crest (Outbound Track)	22980	50	80	9192	40
3	Spur crest (Plantation Rd)	10992	40	80	3517	32
4	Spur crest	8000	70	80	4480	56
5	Spur crest	8230	70	80	4608	56
6	Ridge crest (Lemon Tree Rd)	19580	60	80	9398	48
7	Ridge crest (Mebbin Rd)	10770	60	80	5169	48
8	Linking slopes	3850	30	40	462	12

Survey Unit	Landform element	Survey Unit Area (m2)	Visibility %	Exposure %	Effective Coverage (m2)	Effective Coverage (%)
9	Spur crest	10290	5	50	257	2.5
10	Spur crest	20930	5	30	523	1.5
11	Ridge Crest (O'Briens Rd)	70300	70	90	24603	63
12	Side slopes	40100	5	5	100	0.25
13	Spur crest	20000	70	90	12600	63
14	Spur crest	30580	15	30	1376	10.5
15	Spur crest/slopes	20230	10	20	404	2
16	Stream flats	10300	5	5	25	0.25
17	Road Reserve and low slopes (Stage 1)	1000	5	5	2.5	0.25

8. RESULTS ABORIGINAL HERITAGE

8.1. Tweed Byron LALC Mapping

Tweed Byron LALC has provided the following maps indicating locations of Restricted sites and Aboriginal sites recorded during the field inspection (Figure 8). The map typically shows the correlation between known sites and known cultural heritage (yellow polygons) as mapped by the TSCACHMP.

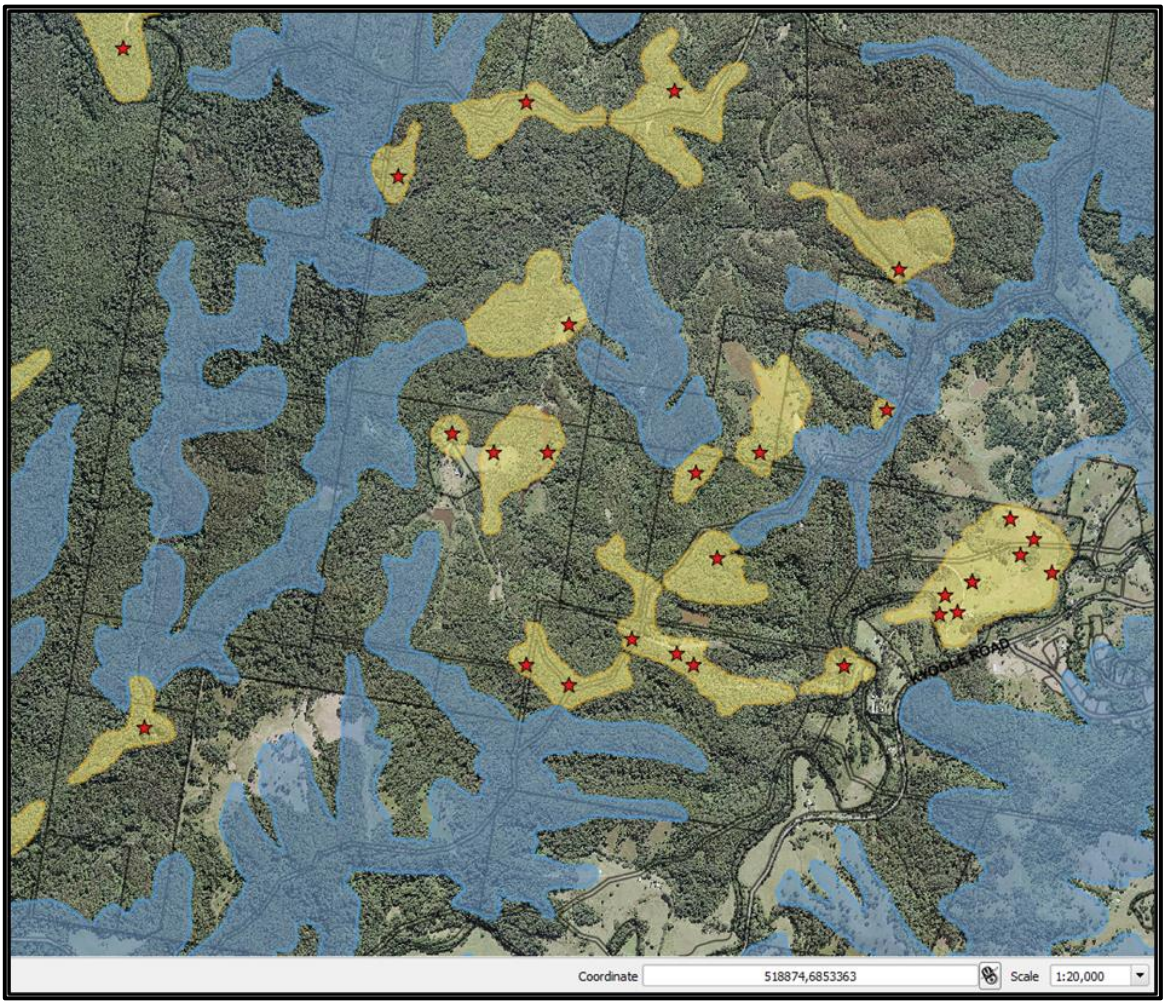

Figure 8: TBLALC mapping showing previously recorded sites from TBLALC database.

8.2. Previously Recorded Aboriginal Sites

The AHIMS search identified a total of 36 previously registered Aboriginal sites. The field investigation was able to investigate the accuracy of the previous site recordings for the following previously recorded sites.

8.2.1. MS 14 (#04-1-0041)

No evidence of the site was identified at the AHIMS site centroid as the site was recorded on the AGD datum and was accurate to 100m+. The conditions at the AHIIMS centroid locations included heavy ground cover. As such it is concluded that the site record is not accurate.

8.2.2. (#04-1-0030)

The #04-4-0030 site is recorded on AHIMS as a 'restricted site', however the location was known to the TBLALC. The site was located and comprises an isolated artefact, being a white silcrete core with dimensions of 70mmx53mmx63mm. The site is located on a ridge crest and is visible in a vehicle track, artefacts extend up the slope from the AHIMS centroid. The additional artefacts were not individually recorded by the survey team, as the nature and extent of the site as originally identified and recorded in the AHIMS database is not clear. The survey team did not want to include information that may be incomplete or be inconsistent with the original site record.

8.2.3. MS5 (04-1-0002)

The #04-4-0002 site is recorded using the AGD datum and is accurate to 100m+. The MS5 site centroid was located in thick scrub on a moderate slope. As such, it is not clear that the site record is accurate. However, it is noted that the NLS 8 site (see below) is within 30m of the AHIMS centroid.

8.2.4. (#04-1-0091)

The #04-4-0091 site is recorded on AHIMS as a 'restricted site', however the location was known to the TBLALC. A tree was identified near the AHIMS location as provided by TBLALC, near three water tanks on a cleared hilltop. Based on an investigation of the scarring on the tree it is not clear that the tree meets the criteria for a 'scar tree' as set out in the NSW Aboriginal Scar Tree manual (DECCW 2005). Having

consideration for the shape and location of the scar on the tree, it is considered likely that the scarring is a result of fire damage.

8.2.5. Mebbin Springs MS17 (#04-1-0044)

The AHIMS record for the Mebbin Springs MS17 site was located during the field survey. Based on an investigation of the scarring on the tree it is not clear that the tree meets the criteria for a 'scar tree' as set out in the NSW Aboriginal Scar Tree manual (DEECW2005). The tree is a stringy bark, which typically do not have bark which is suitable for use. The location and shape of the scar on the tree is consistent with natural damage from fire scarring. Following a review of planning constraints this site is located outside of the Project Area.

8.2.6. (#04-1-00092)

The #04-4-0092 site is recorded on AHIMS as a 'restricted site', however the location was known to the TBLALC and the site is understood to be a 'Resources and Habitation' site and as such will not trigger a requirement for regulatory approval for works affecting Aboriginal objects.

8.2.7. (#04-1-0034)

The #04-4-0034 site is recorded on AHIMS as a 'restricted site', however the location was known to the TBLALC. The site was determined to be outside the Project Area and was not investigated further by the field team. It is noted that AHIMS provides a default buffer around restricted sites which accounts for its inclusion in the extensive search results.

8.2.8. (#04-1-0035)

The #04-4-0035 site is recorded on AHIMS as a 'restricted site', however the location was known to the TBLALC. The site was determined to be outside the Project Area and was not investigated further by the field team. It is noted that AHIMS provides a default buffer around restricted sites which accounts for its inclusion in the extensive search results.

8.2.9. MS12 (#04-1-0039)

The AHIMS centroid was relocated within thick lantana on the upper slope. No artefacts could be located within the track adjacent to the centroid location and it was concluded that the AHIMS site location was inaccurate. It is noted that the site was recorded in the AGD datum to an accuracy of 100m+. An additional investigation of the AHIMS site card would be required for this site.

8.2.10. (#04-1-0028)

The #04-4-0034 site is recorded on AHIMS as a 'restricted site', however the location was known to the TBLALC. Based on the information provided it is understood that the site is located 75m east of the #04-1-0030 site, however the site as recorded on AHIMS could not be verified based on the information available at the time of the field investigation.

8.3. New Aboriginal Sites

A total of 27 new Aboriginal sites were recorded during the field survey.

8.3.1. NLS 1 Possible Modified Tree

The possible site is located on the eastern side of the uphill track on the edge of a grassed slope (Lot 121 DP 124446 E523314 N6851773). The scar is elliptical on the downhill side of the tree facing in a south easterly direction (Table 6). The heartwood of the tree is intact. The tree appears to be 'old growth' and of sufficient age to carry an Aboriginal cultural scar however, this opinion could only be confirmed with an expert arborists advice. Significance is assessed as **moderate.**

Table 6: Summary of Site NLS1.

Artefact #	Type	Species	Height (mm)	Width (mm)	Overgrowth (mm)	Description
1	Scar Tree	Stringy bark	1500	250	250	The tree is alive and the condition of the tree is good. The girth of the tree is 5.5 m and the height of the tree is estimated to be 20m. The scar is located

Artefact #	Type	Species	Height (mm)	Width (mm)	Overgrowth (mm)	Description
						650 mm above the ground.

8.3.2. NLS 2 PAD

The PAD is identified as a broad level knoll at the termination of a spur line allowing access to the river flats below. The location has wide ranging views in the south and south east quarter to Mt Burrell and Sphinx Rock to the Nightcap Range and Mt Jerusalem. The location is not a proposed dwelling site, however given its location in otherwise steep terrain and proximity to the resources of the river, the area is assessed as having a **moderate** potential for subsurface archaeological deposits.

8.3.3. NLS 3 PAD

The PAD is identified as a broad level knoll at the termination of a spur line allowing access to the river flats below. The location has wide ranging views in the south and south east quarter to Mt Burrell and Sphinx Rock. The location is very similar to NLS 2 and considered to have a **moderate** potential for sub-surface deposits.

8.3.4. NLS 4 Isolated Artefact and PAD

The location is an open knoll of a spur line terminating at the Tweed River flats. An artefact was found at the base of an iron bark tree on the southern slope of the crest (see Table 7). The feature is orientated to the south east, vegetated by open grassland with a wide vista of views to culturally significant features. Soils appear to be dark brown to black loams. Ground surface exposure in the track is 10% and surface visibility 80%. The area is considered to have a **moderate** potential for sub-surface deposits.

Table 7: Summary of Artefact NLS4.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Core	Silcrete	33	35	30	10% Cortex.

8.3.5. NLS 5 Artefact Scatter PAD

The scatter consists of four stone artefacts on a level section of ridge crest on the western side of the track verge and layby area on the eastern side of the track (see Table 8 for site information). The surrounding vegetation is a regrowth dry sclerophyll. The artefacts are found in crumbly black loam above a clay basil layer that forms the track surface. Soil depths are expected to be shallow over a compacted red/orange clay. Artefacts are not expected to penetrate the clay layer in the track therefore there is little possibility for sub-surface deposits, however the loam soils off the track may contain concealed Aboriginal objects therefore Potential Archaeological Deposits (PAD). These may be of **moderate** significance.

Table 8: Summary of Artefact Scatter NLS5.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Silcrete, brown	35	28	3	Striking platform, snapped, retouch right upper dorsal, feather termination.
2	Flake piece	Silcrete, red	40	35	18	1 negative flake scar
3	Flaked piece	Silcrete, red	80	35	30	Heavy reduction on one margin.
4	Hammerstone	Basalt?	95	90	35	Pebble. Possible pitting from use.

8.3.6. NLS 6 Artefact Scatter and PAD

The site is a scatter of eight stone artefacts on a vehicle track over a slightly undulating section of narrow ridge crest (Table 9). The scatter is spread over approximately 60 m. Vegetation is regrowth sclerophyll woodland. The artefacts were found in the road corridor on the clay base. Ground surface exposure in the track is 90% and surface visibility 100%. It is suspected that given the number of cores in a small area the site may well be more permanent or more regularly used as a transit stop. There is no apparent ready source of water. It is believed that the black loams extending on either side of the track may contain sub-surface deposits, but these would be expected to be shallow. Therefore, the location is assessed as having a **moderate** potential for archaeological deposits.

Table 9: Summary of Artefact Scatter NLS6.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Silcrete	115	75	15	White silcrete - bifacially flaked
2	Flake piece	Grey chert	51	15	16	N/A
3	Flake piece	Grey chert	34	14	4	N/A
4	Core	Basalt	57	24	45	Some polishing evident indicating potentially a chopper or axe blank.
5	Core	Red chert	25	17	10	The core is heavily reduced.
6	Core	Yellow silcrete	57	42	33	N/A
7	Core	Yellow silcrete	85	65	46	N/A
8	Core	Red silcrete	65	45	27	N/A

8.3.7. NLS 7 PAD

The location of the PAD is a spur line extending down slope to the south east of the central track. At the crest of the spur there is a broad level area considered by the Land Council Officers as a suitable Aboriginal campsite. Vegetation is regrowth wet sclerophyll possibly less disturbed by plantation forestry. Isolated trees mostly stringy bark are scattered through what is otherwise a dense undergrowth. Soils may be deeper here than the thin soils of the ridge crest. Area of ground exposure is <5% and surface visibility <10%. The area is assessed to have a **low to moderate** potential for sub-surface archaeological deposits.

8.3.8. NLS 8 Artefact Scatter

The location of the NLS 8 site is a bare hillcrest on the ridge track dissected by a power easement and power lines (see Table 10 below for site details). Vegetation is regrowth wet sclerophyll. Area of ground exposure is 50% and surface visibility 100%. An artefact scatter is found on the eastern compacted clay batter of a track following the easement, continuing downslope for approximately 50m where a white

silcrete core was identified. The site is also the position of AHIMS # 04-1-0002 although the data places the site approximately 30m downslope to the south west, in the direction of the central track. There are two Restricted AHIMS sites #04-1-0028 and 04-1-0030, both artefacts in the near vicinity to the east, associated with the power easement. The area is assessed to have a **low potential** for sub-surface archaeological deposits and **low significance**, as the thin surface soils have been scraped to the compacted clay sub-surface.

Table 10: Summary of Artefact Scatter NLS8.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake piece	Red chert	43	28	15	N/A
2	Core	White silcrete	50	44	30	N/A
3	Core	Unknown	50	45	30	Unknown material. White in colour and coarse grained.
4	Flake piece	Chalcedony	45	23	20	N/A
5	Core	Grey/Red silcrete	70	54	43	N/A
6	Core	White chert	65	60	38	Heavily reduced core.
7	Core	Creek pebble	74	55	38	N/A
8	Manuport	Basalt	135	100	36	N/A

8.3.9. NLS 9 PAD and Artefact Central Hill

The NLS 9 artefact and PAD is located on an open grassed hilltop with a vehicle track through the centre (see Table 11 for artefact summary). The clearing is generally level with permanent water sources (Kunghurloo Creek) a short distance to the west. Dwellings are proposed in plantation forest to the east edges of the clearing. At the entrance to the clearing from the south a registered modified tree is located ca 6m to the left of the track. I am informed that Des Williams (Chairman TBLALC) who visited the site recently post the inspection, is of the opinion that the scarred tree standing today is not the tree originally recorded as the tree containing the Aboriginal scar. Mr Williams states that the tree was in a degraded state and removed to a place unknown (Maurice Gannon pers comm. 25-1-19). See management mitigation recommendation 9.

It is not known if the hill top clearing had any pre-European origins or was cleared to provide feed for livestock. An artefact was found on the crest of the hill, in the black loam soil verge of the track on the eastern side. The area is assessed to have a moderate potential for sub-surface archaeological deposit and **moderate** significance.

Table 11: Summary of Artefact NLS9.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Core	White silcrete	57	55	40	N/A

8.3.10. NLS 10 Isolated Artefact

The NLS 10 isolated artefact is located on the vehicle track upslope of the AHIMS modified tree site # 04-1-0044 (see Table 12). The artefact is located in the low cut of the road on the upside of the track. Vegetation is regrowth wet sclerophyll. Ground exposure is 90% and surface visibility 60%. The site has **low** significance.

Table 12: Summary of Artefact NLS10.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Core	Black silcrete	62	62	65	N/A

8.3.11. NLS 11 Isolated Artefact

The NLS 11 isolated artefact, is located in the track on the ridge crest slope at the junction with a spur track to the north-west (see Table 13 for summary of artefact). Vegetation is regrowth wet sclerophyll. Ground exposure is 90% and surface visibility 80%. The site has **low** significance.

Table 13: Summary of Artefact NLS11.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Fine grained Volcanic	30	35	15	Very fine grained, glass like. Similar to perlite or obsidian

8.3.12. NLS 12 Isolated Artefact

The NLS 12 isolated artefact site is located on a slight slope of Lemon Tree Road on the clay basal layer (see Table 14 for a summary of the artefact). Vegetation is plantation forest therefore either side of the road will be highly disturbed. Ground exposure is 90% and surface visibility 100%. The site has **low** significance.

Table 14: Summary of Artefact NLS12.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Brown chert	20	15	5	N/A

8.3.13. NLS 13 Isolated Artefact Lemon Tree Road

The NLS 13 isolated artefact is located on a rise at the junction of the ridge track (Road) and a spur track to the south east in loose soil and leaf litter (see Table 15 for a summary of the artefact). Vegetation is plantation forest therefore either side of the road will be highly disturbed. Ground exposure is 90% and surface visibility 80%. The site has **low** significance.

Table 15: Summary of Artefact NLS13.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Grey chalcedony	70	50	18	N/A

8.3.14. NLS 15 Isolated artefact Lemon Tree Road

The NLS 15 artefact is located on a gentle down slope on the ridge track (see Table 16 for site summary). Vegetation is plantation forest therefore either side of the road will be highly disturbed. Ground exposure is 90% and surface visibility 80%. The site has **low** significance.

Table 16: Summary of Artefact NLS15.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Grey silcrete	22	15	8	N/A

8.3.15. NLS 16 Isolated Artefact Lemon Tree Road

The isolated artefact NLS 16 is located in the track on a level section of ridgeline (see Table 17 for site summary). Vegetation is plantation forest therefore either side of the road will be highly disturbed. Ground exposure is 90% and surface visibility 80%. The site has **low** significance.

Table 17: Summary of Artefact NLS16.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Brown silcrete	25	30	15	N/A

8.3.16. NLS 17 Artefact Scatter Lemon Tree Road

The NLS 17 site is located on a slight incline of Lemon Tree Road (see Table 18 for a summary of the artefact). Vegetation is plantation forest therefore either side of the road will be highly disturbed. Ground exposure is 90% and surface visibility 100%. The site has **low** significance.

Table 18: Summary of Artefact Scatter NLS17.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Brown silcrete	45	38	19	The flake is a primary flake
2	Flake piece	Brown chert	43	20	20	N/A

8.3.17. NLS 18 Isolated Artefact Lemon Tree Road

The NLS 18 isolated artefact is located on Lemon Tree Road (see Table 19 for artefact summary). Vegetation is plantation forest therefore either side of the road will be highly disturbed. Ground exposure is 50% and surface visibility 60%. The site has **low** significance.

Table 19: Summary of Artefact NLS18.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake piece	Blue-grey silcrete	35	23	16	N/A

8.3.18. NLS 19 Artefact Scatter Mebbin Road

The NLS 19 artefact scatter site is located at the intersection of Lemon Tree Road and Mebbin Road on a hillcrest forming a connection between the Lemon Tree Road ridge line and a ridge carrying Mebbin Road. Seven artefacts are spread over the base clay layer in the road surface (see Table 20 for artefact summary). The vegetation is plantation forest and therefore likely to be highly disturbed. There is a low potential for sub-surface artefacts. The site has **low** significance.

Table 20: Summary of Artefact Scatter NLS19.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	White/ Cream Quartz	22	24	10	
2	Flake	Brown chert	22	24	10	
3	Flake	Pink/white silcrete	40	30	12	
4	Flake	Grey chert	18	10	6	
5	Flake	Light grey chert	17	6	3	
6	Flake	Pink silcrete	48	35	3	
7	Flake	Quartz	30	22	11	

8.3.19. NLS 20 Isolated Artefact Lemon Tree Road

The NLS 20 isolated artefact is located on a slight slope on the LTR ridge crest and comprises a brown silcrete flake (Table 21). Plantation forest flanks either side of the road therefore it will be highly disturbed. Ground exposure is 50% and surface visibility 70%. The site has **low** significance.

Table 21: Summary of NLS20.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Brown silcrete	34	35	11	

8.3.20. NLS 21 Isolated Artefact Lemon Tree Road

The NLS 21 isolated artefact comprises a pink chert flake piece on a slight western inclined slope on the LTR ridge crest (See Table 22 for artefact description). Plantation forest flanks either side of the road therefore it will be highly disturbed. Ground exposure is 80% and surface visibility 90%. The site has **low** significance.

Table 22: Summary of NLS21.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake piece	Pink chert	16	16	14	

8.3.21. NLS 22 Artefact Scatter Lemon Tree Road

The NLS 22 artefact scatter comprises a hammer stone and flaked piece in black loam in the road surface at the western boundary gate on Lemon Tree Road (Table 23). Plantation forest flanks either side of the road therefore it will be highly disturbed. Ground exposure is 50% and surface visibility 50%. The site has **low** significance.

Table 23: Summary of NLS22.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Hammerstone	Pebble	150	70	50	Pitting visible at narrow end of pebble.
2	Flake piece	Grey chert	25	22	14	

8.3.22. NLS 23 Isolated Artefact PAD

The NLS 23 isolated artefact and PAD comprises a broad level or slight slope area on a ridge crest with camping facilities. An artefact was found on the edge of a fire place in black loam soil (Table 24). The area is grassed with views to Aboriginal culturally significant places. There is no obvious source of water within 300m. The area is assessed to have a **low to moderate** potential for sub-surface archaeological deposit.

Table 24: Summary of NLS23.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake Piece	Brown chert	32	25	15	

8.3.23. NLS 24 Isolated Artefact

The NLS 24 isolated artefact is found on a steep incline on the continuation of the ridge containing NLS 23 (see Table 25). The surrounding vegetation is regrowth wet sclerophyll, soils are black loam. The ground exposure is obscured by heavy leaf fall nevertheless ground exposure is 40% and surface visibility 60%. The site has **low** significance.

Table 25: Summary of NLS24.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Grey chalcedony	30	43	16	

8.3.24. NLS 25 Isolated Artefact

The NLS 25 isolated artefact was located on a steep incline on the continuation of the ridge containing NLS 23 (see Table 26 for a summary of the artefact). The surrounding vegetation is plantation forest and regrowth wet sclerophyll, soils are black loam. The ground exposure is obscured by heavy leaf fall nevertheless ground exposure is 40% and surface visibility 60%. The site has **low** significance.

Table 26: Summary of NLS25.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake piece	Grey silcrete	60	40	40	

8.3.25. NLS 26 Isolated Artefact

The artefact is found at the junction of four tracks. The artefact is found at the junction of the track from the south west, the same track on which NLS 23 and NLS 24 are located (see Table 27 for artefact summary). There is a considerable area of ground exposure due to the intersection. Ground exposure is 80%, surface visibility is 90%. The site has **low** significance.

Table 27: Summary of NLS26.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Black chert	16	16	8	

8.3.26. NLS 27 Isolated Artefact

The NLS 27 isolated artefact was found on a moderate incline to a saddle on a ridge crest vegetated with plantation black butt forest (see Table 28 for a summary of the artefact). Ground exposure is 100% in the track and 100% visibility. The site has **low** significance and is not within the Project Area.

Table 28: Summary of NLS27.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake piece	Grey silcrete	60	40	40	

8.3.27. NLS 28 Isolated Artefact

The NLS 28 isolated artefact was located on a moderate incline spur track in plantation forest (see Table 29 for a summary of the artefact). The artefact is found on the right-hand side of the track moving down slope, observed protruding from the track cut beneath a tree root. Ground exposure is 80 % in the track and 70% visibility. The site has **low** significance.

Table 29: Summary of NLS28.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Axe/ Axe blank	Unknown	139	90	30	Heavily weathered surface. Flake scars either side. Possibly evidence of grinding on right lateral margin.

8.3.28. NLS 29 PAD O'Briens Road

The NLS 29 PAD is the level slope and knoll at the termination of a ridge crest. The site contains the homestead and outbuildings of the Bhula Bhula blocks. There are views to Mt Burrell and The Sphinx rock. There are areas of highly disturbed cut, however the vantage point probably contained clearer areas favourable to Aboriginal campsites above dense lower rainforest of the creek flats and lower slopes.

8.3.29. NLS 30 Artefact Scatter O'Briens Road

NLS 30 is an artefact scatter at a proposed 'utilities site' on a level ridge crest at the intersection of O'Briens Road and a track to the north, in regrowth wet sclerophyll forest (Table 30). Ground visibility is 95% in the track and less than 10% off the track. The site has **low** significance.

Table 30: Summary of NLS30.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Core	Silcrete, light grey	73	58	55	Source-outcrop
1	Flake	Chert, green	39	29	10	Retouch. Possibly green jasper.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1`	Flaked piece	Chert, white	30	45	24	
3	Fragments	Chert				Too small to have diagnostic features

8.3.30. NLS 31 Isolated artefact

The artefact is on the track approximately 80m north of NLS 30 at the base of the batter (Table 31). It has probably fallen from topsoil at the lip of the batter.

Table 31: Summary of NLS31.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake piece	Brown chert	35	22	14	

8.3.31. NLS 32 Artefact scatter PAD

The site is at the peak of a hill, at the intersection of O'Briens Road and a track to the north. Stone artefacts are exposed in the track surface and continue discontinuously on the track to the north. The site has **low** significance.

The PAD extends from the peak of the hill northward. It is highly likely Aboriginal stone artefacts are concealed in top soils on level areas and or gentle slopes of the spur line parallel to the track (Table 32). The crest of the spur is grassed otherwise wet sclerophyll. The PAD may have **moderate** significance.

Table 32: Summary of NLS32.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Core	Silcrete, grey	85	75	60	Source-outcrop
1	Core	Chert, black grey	45	30	30	Heavily reduced. Source-pebble

8.3.32. NLS 33 Artefact Scatter PAD

NLS 33 is an artefact scatter on a spur crest extending from the hill peak containing NLS 32. The artefacts are exposed in the track surface (Table 33). The site has **low** significance.

The PAD conditions are as those for NLS 32. The location has views to culturally significant areas: the Caldera and Pumpenbill Pinnacle. The PAD may have **moderate** significance.

Table 33: Summary of NLS33.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Core	Silcrete, grey	70	50	64	2 Reduction flake scars. Source-outcrop
1	Flake	Silcrete	19	28	3	Bulb, snapped
1`	Flaked piece	Silcrete, red/white	50	40	15	
1	Fragments	Silcrete				Too small to have diagnostic features

8.3.33. NLS 34 Artefact Scatter PAD

NLS 34 is an artefact scatter on a spur crest in open grassland extending from the hill peak containing NLS 32 (Table 34). The location has views to culturally significant areas: the Caldera, Pumpenbill Pinnacle and Wollumbin. The artefacts are exposed in the track surface. Ground visibility is 100%. The site has **low** significance. The PAD conditions are as those for NLS 32 and NLS 33. The location has views to culturally significant areas: the Caldera and Pumpenbill Pinnacle. The PAD may have **moderate** significance

Table 34: Summary of NLS34.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Silcrete, light cream	55	63	12	Platform, bulb
1	Fragment	Silcrete				Too small to have diagnostic features

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
2`	Fragments	Chert				Too small to have diagnostic features

8.3.34. NLS 35 Isolated artefact PAD

NLS 35 is an isolated artefact scatter on the spur crest in open grassland extending from the hill peak containing NLS 32 (Table 35). The location has views to culturally significant areas: the Caldera, Pumpenbill Pinnacle and Wollumbin. The artefacts are exposed in the track surface. Ground visibility is 100%. The site has **low** significance.

The PAD conditions are as those for NLS 32, NLS 33 and NLS 34 summarise below as NLS 36. The location has views to culturally significant areas: the Caldera and Pumpenbill Pinnacle. The PAD may have **moderate** significance.

Table 35: Summary of NLS34.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Silcrete, light brown, white	40	28	13	

8.3.35. NLS 36 PAD Summary

The PAD NLS 36 applies to the crest of the spur line between the hill peak at NLS 32 and north to NLS 36 including NLS 32, NLS 33, NLS 34 and NLS 35, a distance of approximately 350mm. The crest of the spur line is open grassland with gradients between level and moderate. Ground visibility is generally high on the track in the order of 90% to 100%. Aboriginal artefacts are exposed at five locations in the track. It is highly probable additional Aboriginal artefacts are concealed in soils either side of the track in proposed dwelling sites. In the modern context the location has views to culturally significant areas: the Caldera, Pumpenbill Pinnacle and Wollumbin. However it can only be surmised that the cultural landscape was as visible in traditional times as it appears today, to the Aboriginal occupants of the spur line. The PAD may have **moderate** significance.

8.3.36. NLS 37 Isolated Artefact

NLS 37 is an isolated artefact on a slope of the O'Briens Road ridge, extending west from the hill peak containing NLS 32 (Table 36). An axe blank or chopper is found in the raised grader scrape on the north side of the track. Ground visibility is 80%. The site has **low** significance.

Table 36: Summary of NLS37.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Axe/chopper Axe blank	Basalt	120	90	40	1

8.3.37. NLS 38 Artefact Scatter

NLS 38 is an artefact scatter of one flake and three fragments (too small to have diagnostic features), at a fork of O'Briens Road and a track to a north trending spur line (Table 37). The artefacts are exposed in the track surface. Ground visibility is 95% in the track and less than 10% off the track. Vegetation is regrowth wet sclerophyll forest. The site has **low** significance.

Table 37: Summary of NLS38.

Artefact #	Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Description
1	Flake	Silcrete, cream	55	63	12	Bulb, striking platform
2	Fragments	Chert				
1`	Fragments	Silcrete				

8.3.38. NLS 39 PAD

The PAD NLS 39 applies to a broad very gently inclined (av 2%) slope at the termination of a spur line emanating at the ridge of O'Briens Road. Cattle yards are also visible nearby to this location. The PAD is heavily grassed, ground visibility is generally nil. The elevated position overlooks upper tributaries of Kunghurloo Creek. In the modern context the location has views to culturally significant areas: the Caldera, Pumpenbill Pinnacle and Wollumbin. However it can only be surmised that the cultural

landscape was as visible in traditional times as it appears today. Dwellings are proposed for the location. The PAD may have **moderate** significance.

8.3.39. NLS 40 PAD

The PAD NLS 40 applies to approximately 150m of level crest at the termination of a spur emanating from the main ridgeline carrying the main through road. The PAD is heavily grassed, ground visibility is generally nil. The elevated position overlooks upper tributaries of Kunghurloo Creek. In the modern context the location has views to culturally significant areas: the Caldera, Pumpenbill Pinnacle and Wollumbin. A silcrete core was observed in a clearing beyond the survey area. However it can only be surmised that the cultural landscape was as visible in traditional times as it appears today. Dwellings are proposed for the location The PAD may have **moderate** significance.

8.4. Historical Sites

Two potential historic sites were noted during the Aboriginal heritage field assessment. These included;

- the remains of a bush sawmill (HNLS 1) locally referred to as a 'Case Mill' located on the ridge crest of O'Briens Road. The history and significance of the site is yet to be researched.
- stock yards (HNLS 2) located in open grasslands on lower slopes to Kunghurloo Creek. The site is a timber post and panel construction in a good state of preservation.

An initial assessment of the site's preservation and the rarity of such sites in this 'condition' suggests the two sites may be of Local Heritage significance. A full review of historic heritage sites was beyond the scope of this report and will be conducted at a later date.

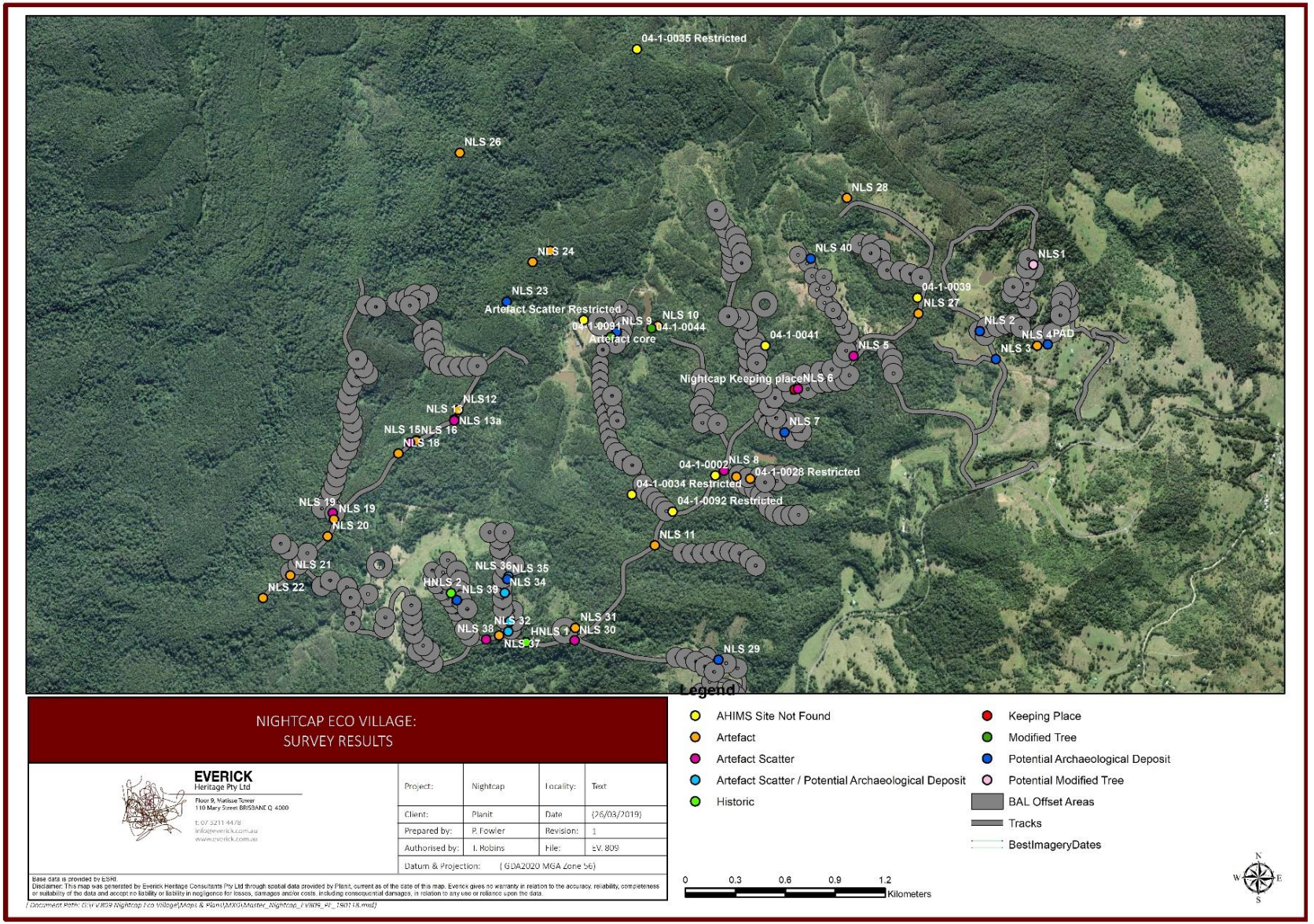

Figure 9: Archaeological survey results.

9. ANALYSIS AND DISCUSSION OF ABORIGINAL CULTURAL HERITAGE

The assessment sample was dictated by the preference of the Proponent for use of the elevated spines of the ridge crests, spur crests and a hill crest to position the dwelling sites. Therefore, a small range of macro landform features were investigated for Aboriginal cultural heritage. Micro landform features such as stream lines, creek beds, flats and lower slopes were not relevant to the inspection as they will typically be avoided by the Proposed Works. The inspection was essentially a road survey parallel to the dwelling sites which, almost without exception, have ground covers so dense that ground exposure and surface visibility were absent.

Aboriginal site distribution was very much reflective of the model advanced by Byrne, being;

> *"small scale and intermittent…small, highly mobile groups travelling between overnight camps…. Small campsites would be located along lines of movement either in the open or nearby rock shelters. In the case of ridgeline camps they are more likely to be in wet or dry sclerophyll rather than rainforest* (Byrne 1987:55)."

The Lemon Tree Road ridge is a case in point where a continuous distribution of single artefacts and several small clusters of two or more over several kilometres appear to match closely Byrne's scenario. Interestingly, access to water does not appear to be a consideration in the Aboriginal passages through the ridgelines of this country. The nearest water sources are well down steep slopes in the valleys below. However open wet or dry sclerophyll ridge lines can be moved through quite easily and quickly between water sources.

As stated above the nature of the project dictated the landforms sampled, therefore there is a very high proportion of ridge crest sites almost to the exclusion of any others with the exception of a small number of mid slope sites. However, 3 of the mid slope sites are PADS and only 1 artefact were found in the land from. This may also be a factor of heavy grass covers limiting clear surface areas. The fact that all of the slopes units are under bitumen tracks where Aboriginal passage would be expected, eliminates that source of investigation. Dallas identified a cluster of artefact scatters on slopes immediately below the project area in dirt farm tracks and eroded surfaces which may suggest similar conditions in the project area if they had existed, were excluded from view.

Based on the survey it is possible to make the following conclusions with respect to the potential of the Proposed Works to impact on Aboriginal sites;

- The Project Area comprises a complex sequence/assemblage of Aboriginal objects which primarily relate to the use and occupation of subtropical rainforests, closed forests and open forests. The nature and extent of this site assemblage is typically of similar scale studies in the region and demonstrate the general pattern of occupation of Aboriginal people in the Tweed Valley.
- Low density artefact scatters and isolated artefacts are by far the most dominant artefact 'type' within the Project Area, and the upper Tweed generally. This is consistent with similar studies and demonstrates the physical presence of Aboriginal people in the Tweed into the hinterland and upper watersheds/catchments.
- Scarred trees, where they were identified did not fit the 'typical' morphology of bowls, shields and canoes. There is a question over the identification of all the scarred trees identified in the Project Area.
- The previously recorded AHIMS sites are typically inaccurate as they have either been recorded as 'restricted sites' and/or were recorded using the AGD datum. Of the AHIMS sites investigated none could be relocated in the field.
- Several PADs were identified in the field, typically on broader ridge crests in close proximity to water. The distribution of sites and isolated artefacts is such that many of the artefacts were recorded in areas with level to moderate slope where the topsoil layer had been removed by erosion. Where PADs have been identified it is likely that larger 'intact' archaeological sites will be present.
- Previous studies have identified the presence of sites of a ceremonial and spiritual nature within the upper river valleys and watersheds. Documentation of these types of sites was beyond the scope of the assessment, however there are no registered Aboriginal Places within the Project Area which would trigger a regulatory approval process.
- Having consideration for the constraints to site detection, it is not possible to provide any detailed analysis of artefacts or sites that would provide any detailed or meaningful insights relevant to the management of cultural heritage within the Project Area. However, the field assessment has confirmed the prevalence of Aboriginal objects along the ridge crests and therefore the potential of the Proposed Works to harm Aboriginal sites. Based on this general conclusion it is reasonable to proceed on the basis that additional community consultation and investigation is required prior to commencement of the Proposed Works. However, it is noted that the scale and nature of the Proposed Works is such that it is reasonable to propose that Aboriginal heritage can be adequately managed through avoidance and the establishment of conservation areas; by the implementation of engineering solutions which

minimise the footprint of buildings and roads on ridge crests near known sites and through regulatory means to salvage and relocate artefacts from construction areas.

9.1. Scientific Values and Significance Assessment

The identification and assessment of cultural heritage encompasses the four values of the Burra Charter: social, historical, scientific and aesthetic values (Australian ICOMOS 1999).

Social or cultural value refers to the spiritual, traditional, historical or contemporary associations and attachments the place or area has for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them. Historic value refers to the associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Aesthetic value, refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with the social values (GAIRACH 2011: 7).

Scientific significance refers to the importance of a landscape, area, place or object because of its rarity, representativeness and the extent to which it may contribute to further understanding and information (Australian ICOMOS 1988). The primary considerations when evaluating a site's research potential are, research potential, rarity, representativeness and educational potential. These criteria are usually expressed as high, moderate or low.

At this initial stage of the assessment of Aboriginal cultural heritage the social, historical and aesthetic values specific to the Project area have not been comprehensively explored. It is safe to say from personal conversations and visitations over a number of years that the upper Tweed region holds a great significance to the Aboriginal community of both the Tweed and Richmond valleys. This is particularly due to the great body of cultural knowledge that has been retained concerning natural mythological sites and ritual associated with the land 'influenced' by those sites. It is not known at this stage if the Project area holds specific historical importance to Aboriginal people. It is also reasonable to state that aesthetic values are a significant value for the Aboriginal community given that there are views from the Project area to many culturally significant places, from vantage points encompassing Wollumbin, the Nightcap Range, Tweed Range and McPherson Ranges.

From an archaeological or scientific perspective the overall site significance of surface sites is low being mostly isolated artefacts which technically are not sites for which the threshold is two or more artefacts. All identified surface sites are in disturbed contexts on vehicle tracks where often the top soil has been removed leaving the artefacts on the compacted clay sub-surface. It was clear that in wet conditions these had been compressed by vehicle use, into the clay. These sites individually are assessed to be of low

scientific significance. However, taken as a group the Lemon Tree Road 'sites' reflect closely, the pattern of movement advanced by Byrne (1985), of Aboriginal people through this ridge line country.

The raw materials component reflects the wide diversity of locally procurable rock in this rich volcanic geology. It is unlikely trade or exchange of stone materials would account for the diversity of rock types when all of the materials found in assemblages from previous reports are available locally. The surface sites are not considered to be of educational value due mainly to their disturbed contexts.

The significance of Potential Archaeological Deposits cannot be assessed at this stage as their contents are unknown. This can only be ascertained by archaeological testing by excavation. If cultural materials are found their significance would be ascertained, if nothing they are deemed not to be Aboriginal sites.

Moderate significance is attributed to the possible modified tree (NLS 1), the only 'new' modified tree recorded in this survey. The assessment as to a possible Aboriginal origin for the scar is the age of the tree which appears to be over 150 years (subject to an arborist's examination), the elliptical shape, overgrowth, height from the ground and the lack of other evidence of fire, limb tear or termites.

9.2. Impact Assessment

The NSW Guide to *investigating, assessing and reporting on Aboriginal cultural heritage in NSW* recommends that this stage is used to identify the nature and extent of the proposed activity and any potential harm to Aboriginal objects and/or declared Aboriginal places. Harm is defined as:

Direct harm may occur as the result of any activity which disturbs the ground including, but not limited to, site preparation activities, installation of services and infrastructure, roadworks, excavating detention ponds and other drainage or flood mitigation measures, and changes in water flows affecting the value of a cultural site.

Indirect harm may affect sites or features located immediately beyond, or within, the area of the proposed activity. (GIARACH 2011: 12).

Having consideration for the extent of the known Aboriginal sites and the proposed distribution of dwelling sites it is concluded that the development proposals will impact Aboriginal objects. The potential harm from the proposed works broadly include;

- Removal or topsoils for roads and essential infrastructure including power and water;
- Relocation of topsoils and vegetation for dwellings and associated septic systems;
- Disturbance of topsoils for landscaping and gardening and

- Vegetation removal for buffers to bushfire.

Potential impacts to Aboriginal sites do not apply to the Project Area as a whole. Road works on level or slight track inclines on ridge and spur crests are highly likely to unearth additional Aboriginal objects therefore it is reasonable to conclude that additional indirect impacts will likely occur from the Proposed Works.

Impacts to dwelling sites can only be surmised, as heavy undergrowth conditions limited inspection to the adjacent dirt tracks/roads provides an approximation of distance between Aboriginal sites and dwelling sites. Aboriginal sites that are greater than 150m distant from a proposed dwelling are not listed. The distances are estimated on the basis of the Preliminary Plans which delineate numbered dwelling sites as indicative, there are no building Lot plans known to the consultants at this stage.

Having consideration for the results of the field survey and the potential impact from the Proposed Works as outlined by the available technical drawings it is possible to make the following preliminary impact assessment (Table 38).

Table 38: Summary of Impact Assessment

Site name	Site type	Significance	Type of Harm	Degree of Harm	Consequence of Harm
NLS 1	Possible scarred tree	moderate	None	none	No loss of value
NLS 2	PAD	moderate	None	none	No loss of value
NLS 3	PAD	moderate	Direct	Partial	Partial loss of value
NLS 4	PAD/artefact	moderate	Direct	Partial	Partial loss of value
NLS 5	PAD/artefact scatter	low	Direct	Partial	Partial loss of value
NLS 6	PAD, artefact scatter	low	Direct	Partial	Partial loss of value
NLS 7	PAD	low/moderate	Direct	Partial	Partial loss of value
NLS 8	artefact scatter	low	Direct	Partial	Partial loss of value
NLS 9	isolated find	low	Direct	Total	Total loss of value

Site name	Site type	Significance	Type of Harm	Degree of Harm	Consequence of Harm
NLS 10	isolated find	low	None	None	No loss of value
NLS 11	isolated find	low	Direct	Total	Total loss of value
NLS 12	isolated find	low	Direct	Total	Total loss of value
NLS 13	artefact scatter	low	Direct	Partial	Partial loss of value
NLS 15	isolated find	low	Direct	Total	Total loss of value
NLS 16	isolated find	low	Direct	Total	Total loss of value
NLS 17	artefact scatter	low	Direct	Partial	Partial loss of value
NLS 18	isolated find	low	Direct	Total	Total loss of value
NLS 19	artefact scatter	low	Direct	Partial	Partial loss of value
NLS 20	isolated find	low	Direct	Total	Total loss of value
NLS 21	isolated find	low	Direct	Total	Total loss of value
NLS 22	artefact scatter	low	Direct	Partial	Partial loss of value
NLS 23	PAD, isolated find	low	None	None	No loss of value
NLS 24	isolated find	low	None	None	No loss of value
NLS 25	isolated find	low	None	None	No loss of value
NLS 26	isolated find	low	None	None	No loss of value
NLS 27	isolated find	low	None	None	No loss of value
NLS 28	isolated find	low	None	None	No loss of value
NLS 29	PAD	moderate	Direct	Partial	Partial loss of value
NLS 30	artefact scatter	low	Direct	Partial	Partial loss of value
NLS 31	isolated find	low	Direct	Total	Total loss of value

Site name	Site type	Significance	Type of Harm	Degree of Harm	Consequence of Harm
NLS 32	isolated find	low	Direct	Total	Total loss of value
NLS 33	artefact scatter	low	Direct	Partial	Partial loss of value
NLS 34	artefact scatter	low	Direct	Partial	Partial loss of value
NLS 35	isolated find	low	Direct	Total	Total loss of value
NLS 36	PAD	moderate	Direct	Partial	Partial loss of value
NLS 37	isolated find	low	Direct	Total	Total loss of value
NLS 38	artefact scatter	low	Direct	Partial	Partial loss of value
NLS 39	PAD	moderate	Direct	Partial	Partial loss of value

9.3. Management and Mitigation Measures

The following management and mitigation options have been considered for sites within the Project Area:

a) Additional investigation

b) complete avoidance;

c) partial avoidance;

d) harm with salvage (community collection) and repatriation on-site; and

e) harm without salvage.

Having consideration for the outcomes of the assessment it is recommended that harm with salvage (community collection) and repatriation on site is the most appropriate management and mitigation response for the recorded artefacts and sites within the Project Area.

9.4. Ecologically sustainable development statement

Having consideration for the outcomes of the assessment and the advice from representatives of the Aboriginal community it is not considered that the Proposed Works will have a significant cumulative impact on Aboriginal sites or that the Proposed Works will result in an unsustainable loss of Aboriginal heritage. It is reasonable to conclude that the archaeological site assemblage is consistent across the Project Area and with the site assemblage documented in similar landforms. Further, these types of landforms considered to be adequately represented within the nearby Nightcap, Mt Jerusalem and Mt Warning National Parks.

The layout of the Proposed Works is such that access to the sites by the Aboriginal community will be provided for by the network of public access roads, open spaces and recreation areas. As such it is reasonable to conclude that the Proposed Works will not result in any impacts to Aboriginal sites that cannot be managed by sustainable design principles, engineering solutions or regulatory approvals.

10. RECOMMENDATIONS ABORIGINAL HERITAGE

The consultant is of the opinion that the Proposed Works have the potential to impact on Aboriginal sites. As such the following recommendations will assist the Proponent in meeting statutory obligations with respect to Aboriginal cultural heritage.

Recommendation 1: Additional Aboriginal Community Consultation

It is recommended that additional Aboriginal community consultation is undertaken in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010) guidelines to provide an informed and more complete view of the potential of the Proposed Works to impact on Aboriginal cultural values and sites. The consultation should aim to develop a process for potential Aboriginal stakeholders in the RLSC project to consider the overall objectives and layout of the project and to assist with the development of management policies and strategies, inclusive of completion of additional cultural heritage research and archaeological investigation.

Recommendation 2: Archaeological Investigation and Aboriginal Heritage Impact Permits

The use of regulatory processes to manage impacts to Aboriginal heritage is considered appropriate for many of the sites identified within the Project Area, namely the low-density artefact scatters and isolated artefacts. Having consideration for the outcomes of the field investigation and the complexity of the RLSC proposal it is recommended that future AHIPS are held by the RLSC and not individual members/ residents. This in part acknowledges that AHIPs are linked to approved development applications per stage. As such it is recommended that all ground disturbing works for residential plots, such as the excavation of building pads and driveways, in proximity to recorded sites are undertaken by the RLSC.

Recommendation 3: Cultural Heritage Policy

It is recommended that a Cultural Heritage Policy is developed with representatives of the Aboriginal community to guide the RLSC project. The Policy should include the following;

- General policy statements.
- A outline of owners or stewards requirements.
- A summary of regulations and approval requirements.
- A list of item or values which can and cannot be subject to regulatory approval.

- Statements on the management of archaeological sites and values.
- Discussion of gaps in knowledge.
- A list of who should receive the policy.
- Guidelines on cultural heritage interpretation.
- Statements relating to confidential matters.
- Statements relating to policy reviews.

Recommendation 4: Cultural Heritage Induction

It is recommended that a cultural heritage induction is provided to all contractors who are engaged during construction. The purpose of the cultural heritage induction is to:

- Make staff aware of the survey effort to date and potential for the Project Area to contain Aboriginal sites;
- Provide sufficient training for staff to identify Aboriginal objects should they be impacted during construction works; and
- Ensure that staff are aware of response procedures in the event of any harm to Aboriginal sites during construction works.

It is recommended that the cultural heritage induction is provided by a suitably experienced member of the Aboriginal community or a qualified archaeologist.

Recommendation 5: Aboriginal Objects Find Procedure

It is recommended that if suspected Aboriginal material has been uncovered because of Proposed Works within the remainder of the Project Area:

- work in the surrounding area is to stop immediately;
- a temporary fence is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site;
- an appropriately qualified archaeological consultant is to be engaged to identify the material;

- if the material is found to be of Aboriginal origin, the Aboriginal community is to be consulted in a manner as outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DEECW 2010); and
- should the works be deemed to have harmed the Aboriginal objects, Heritage NSW should be notified immediately via the EPA Enviro Hotline.

Recommendation 6: Aboriginal Human Remains

Although it is unlikely that Human Remains will be located during earthworks within the Project Area, should this event arise it is recommended that all works must halt in the immediate area to prevent any further impacts to the remains. The Site should be cordoned off and the remains themselves should be left untouched. The nearest police station, the Tweed Byron LALC and the Heritage NSW Regional Office (Coffs Harbour) are all to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the Site for criminal activities, the Aboriginal community and the Heritage NSW should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.

It is also recommended that in all dealings with Aboriginal human remains, the Proponent should use respectful language, bearing in mind that they are the remains of Aboriginal people rather than scientific specimens.

Recommendation 7: Conservation Principles

It is recommended that all effort must be taken to avoid any impacts on Aboriginal Cultural Heritage values at all stages during the development works. If impacts are unavoidable, mitigation measures should be negotiated between the Proponent, Heritage NSW and the Aboriginal community.

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APPENDIX A: CORRESPONDANCE WITH TWEED BYRON LALC

Email Confirmation from Tweed Byron LALC Bhula Bhula Inspection

From: Sites <sites@tblalc.com>
Sent: Friday, 22 February 2019 2:53 PM
To: r.mazlin@everick.com.au
Cc: 'Adrian Piper' <adrpip@onthenet.com.au>; Tim Hill <t.hill@everick.net.au>
Subject: RE: Site Inspection Request

Thanks Robert,

Confirming booked in for 6,7,and 8 March.

Adrian – take it as given we will meet at Uki at 8 am on 6 March.

Kind Regards

Maurice Gannon

Maurice Gannon
Conservation Planning Officer
Tweed Byron Local Aboriginal Land Council
PO Box 6967, Tweed Heads South NSW 2486
Ph: 07 5536 1926 **Mb:** 0407 643 349
www.tblalc.com

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Email Request Bhula Bhula Property 22 February 2019

Email request Bhula Bhula property 22 February 2019

From: *r.mazlin@everick.com.au* [*mailto:r.mazlin@everick.com.au*]
Sent: Friday, 22 February 2019 2:42 PM
To: Sites <*sites@tblalc.com*>
Cc: 'Adrian Piper' <*adrpip@onthenet.com.au*>; 'Tim Hill' <*t.hill@everick.net.au*>
Subject: Site Inspection Request

Good morning Maurice,

Everick have been engaged to undertake additional cultural heritage survey as part of the Nightcap Eco Village project. The lands subject to this additional assessment are identified as being Lot 2 DP1148316, Lot 20 DP755714 and Lot 34 DP755714, Mount Burrell and Kangur NSW (the 'Project Area').

I have attached the Tweed Byron LALC's Terms and Conditions forms along with a preliminary site plan indicating the new lots. The site survey will be conducted by Senior Archaeologist Adrian Piper and will be coordinated by myself.

It is understood that inspection has been discussed and is currently proposed for **6, 7 and 8 March 2019.** Please confirm that these dates are still suitable to the Tweed Byron LALC.

Please let me know if you have any questions or there is any additional information I can provide.

Kind regards,

Robert Mazlin
Archaeologist

Ph: (07) 3211 4478
Mob: 0410 198 656

Everick Heritage Pty Ltd
ABN 78 102 206 682
Brisbane - Townsville - Sydney - Coffs Harbour - Tweed Heads - Canberra - Alice Springs
Web: *www.everick.com.au*

Follow Everick Foundation at…

Email Confirmation from Tweed Byron LALC 7 January 2019

From: Sites <sites@tblalc.com>
Sent: Monday, 7 January 2019 12:13 PM
To: Adrian Piper <adrpip@onthenet.com.au>
Cc: Tim Hill <t.hill@everick.net.au>; Cultural Heritage <culturalheritage@tblalc.com>
Subject: RE: Cultural Heritage Inspection Kunghur/ Mebbin Area

Hi Adrian and Tim

This email is just to advise that I have scheduled Warren and I for this site work for the nominated dates (10th through 16th).

I note the additional comments and will revert ASAP (just organising our schedule at this stage).

Kind Regards

Maurice Gannon

Maurice Gannon
Conservation Planning Officer
Tweed Byron Local Aboriginal Land Council
PO Box 6967, Tweed Heads South NSW 2486
Ph: 07 5536 1926 **Mb:** 0407 643 349

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Email to Tweed Byron LALC 2 January 2019

From: Adrian Piper [mailto:adrpip@onthenet.com.au]
Sent: Wednesday, 2 January 2019 3:53 PM
To: Sites <sites@tblalc.com>
Cc: 'Tim Hill' <t.hill@everick.net.au>
Subject: Cultural Heritage Inspection Kunghur/ Mebbin Area

Maurice
Thanks so much for taking my call on your break.

As we discussed Everick has been requested to undertake a ACHA over land adjoining Mebbin Forest to the south and the Kyogle Road to the east called 'Proposed Rural Land Sharing Community Kunghur".

As we discussed we have scheduled January 10 and 11 (Thurs Fri) and January 14,15,16 (Mon to Wed).

You will find the land in question on the Brays Creek Topo map.

Please see the attachments to give you an idea of the scale of the job which involves potentially several hundred house sites around the Byrrill Creek Inundation Area.

There will also be numbers of registered sites in both the AHIMS register and the Shire Mapping data base in the Restricted category. We will need advice as to protocols as to how we should access site data for those sites.

Please call if you have any insights or suggestions as to carrying out this assessment.

Many thanks
Adrian Piper

APPENDIX B: AHIMS SEARCH RESULTS

Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Nightcap
Client Service ID : 365410

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
04-1-0018	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox					Permits		
04-1-0023	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox					Permits		
04-1-0028	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox					Permits		
04-1-0030	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox					Permits		
04-1-0033	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox					Permits		
04-1-0034	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox					Permits		
04-1-0035	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy,Mr.Ian Fox					Permits		
04-1-0036	MS9 Mebbin Springs; BMP-05-0047	AGD	56	519000	6849900	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Isabel McBryde,Mr.Ian Fox					Permits		
04-1-0037	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	Recorders	Isabel McBryde,Mr.Ian Fox					Permits		
04-1-0039	MS12 Mebbin Springs (BMP-05-0050)	AGD	56	522500	6851400	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Tweed Byron LALC,Doctor.Susan Mcintyre-Tamwoy					Permits		
04-1-0040	Mebbin Springs MS13	AGD	56	521000	6851800	Open site	Valid	Modified Tree (Carved or Scarred) : -, Artefact : -	Scarred Tree	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
04-1-0041	MS14	AGD	56	521600	6851100	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
04-1-0043	MS16	AGD	56	521700	6850700	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
04-1-0044	Mebbin Springs MS17	AGD	56	520900	6851200	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	

Report generated by AHIMS Web Service on 21/08/2018 for Pauline Fowler for the following area at Search using shape-file Area.SHP with a buffer of 0 meters. Additional Info : Mapping.
Number of Aboriginal sites and Aboriginal objects found is 36

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Page 1 of 3

Office of Environment & Heritage NSW GOVERNMENT

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Nightcap
Client Service ID : 365410

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
04-1-0045	MS18	AGD	56	521500	6852900	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
04-1-0002	MS5	AGD	56	521300	6850320	Open site	Valid	Artefact : -	Open Camp Site	
	Contact Mr.Des Williams	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
04-2-0061	Fingal	AGD	56	522900	6850590	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
04-1-0070	Brays Creek	AGD	56	520500	6854030	Open site	Valid	Earth Mound : -, Artefact : -		
	Contact	Recorders	Mr.Adrian Piper					Permits		
04-1-0074	Byrill Creek Open Campsite, BMP-05-0068	GDA	56	520500	6854030	Open site	Valid	Artefact : -		
	Contact Mr.Harry Boyd	Recorders	Mr.Adrian Piper,Mr.Ian Fox					Permits		
04-1-0075	Byrril Creek Grinding Groove, BMP-05-0067	GDA	56	520380	6854270	Open site	Valid	Grinding Groove : -		
	Contact	Recorders	Mr.Ian Fox					Permits		
04-1-0091	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact Searle	Recorders	Mr.Ian Fox					Permits		
04-1-0092	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact Searle	Recorders	Mr.Ian Fox					Permits		
04-1-0098	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact Searle	Recorders	Mr.Ian Fox					Permits		
04-1-0099	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact Searle	Recorders	Mr.Ian Fox					Permits		
04-1-0042	Mebbin Spring MS15	AGD	56	521900	6851200	Open site	Valid	Modified Tree (Carved or Scarred) : -, Artefact : -	Scarred Tree	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
04-1-0153	NV1 (Brays Creek)	AGD	56	523082	6850887	Open site	Valid	Artefact : 2		
	Contact	Recorders	Mary Dallas Consulting Archaeologists					Permits		
04-1-0154	NV2 (Brays Creek)	AGD	56	523127	6850714	Open site	Valid	Artefact : 5		
	Contact	Recorders	Mary Dallas Consulting Archaeologists					Permits		
04-1-0155	NV4 (Brays Creek)	AGD	56	522773	6850523	Open site	Valid	Artefact : 3		
	Contact	Recorders	Mary Dallas Consulting Archaeologists					Permits		
04-1-0156	NV5 (Brays Creek)	AGD	56	522833	6850444	Open site	Valid	Artefact : 9		

Report generated by AHIMS Web Service on 21/08/2018 for Pauline Fowler for the following area at Search using shape-file Area.SHP with a buffer of 0 meters. Additional Info : Mapping.
Number of Aboriginal sites and Aboriginal objects found is 36

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Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Nightcap

Client Service ID : 365410

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	Contact	Recorders	Mary Dallas Consulting Archaeologists					Permits		
04-1-0157	NV IF1 (Brays Creek)	AGD	56	522749	6850436	Open site	Valid	Artefact : 1		
	Contact	Recorders	Mary Dallas Consulting Archaeologists					Permits		
04-1-0158	NV IF2 (Brays Creek)	AGD	56	523280	6850629	Open site	Valid	Artefact : 1		
	Contact	Recorders	Mary Dallas Consulting Archaeologists					Permits		
04-1-0159	NV PAD1 (Brays Creek)	AGD	56	523191	6850789	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Mary Dallas Consulting Archaeologists					Permits		
04-1-0164	Kungurloo 7 Tweed ACH Artefacts	GDA	56	522664	6852249	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Ian Fox					Permits		
04-1-0212	Mt. Terragon 3 Tweed ACH Story Place	GDA	56	524466	6853050	Open site	Valid	Aboriginal Ceremony and Dreaming : -		
	Contact	Recorders	Mr.Ian Fox					Permits		
04-1-0195	Cadell Road Tweed ACH Artefacts	GDA	56	518288	6851497	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Ian Fox					Permits		
04-1-0165	Byrrill Creek 6 Tweed ACH Artefacts	GDA	56	521603	6854178	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Ian Fox					Permits		

Report generated by AHIMS Web Service on 21/08/2018 for Pauline Fowler for the following area at Search using shape-file Area.SHP with a buffer of 0 meters. Additional Info : Mapping.
Number of Aboriginal sites and Aboriginal objects found is 36

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APPENDIX C: SURVEY RESULTS TABLE

Site Name	Identified	AHIMS ID	Description	Raw Material	Feature	Landform	Easting	Northing
04-1-0041	No	04-1-0041	AHIMS Site Not Found	N/A	N/A	Ridge Crests	521600	6851100
04-1-0030	Yes	04-1-0030	Artefact	Silcrete	Core	Ridge Crests	521527	6850498
MS5	No	04-1-0002	AHIMS site not found	N/A	N/A	Ridge Crests	521300	6850320
04-1-0091	Yes	04-1-0091	Modified Tree	N/A	N/A	Ridge Crests	520773	6851339
Mebbin Springs MS14	Yes	04-1-0044	Modified Tree	N/A	N/A	Ridge Crests	521016	6851391
Restricted	No	04-1-0033	AHIMS Site Not Found	N/A	N/A	Ridge Crests	520610	6851440
04-1-0092 Restricted	No	04-1-0092	AHIMS Site Not Found	N/A	N/A	Ridge Crests	521144	6850288
04-1-0034 Restricted	No	04-1-0034	AHIMS Site Not Found	N/A	N/A	Ridge Crests	520898	6850391
04-1-0035 Restricted	Yes	04-1-0035	AHIMS Site Not Found	N/A	N/A	Ridge Crests	520929	6853070
04-1-0039/MS12	No	04-1-0039	AHIMS Site Not Found	N/A	N/A	Ridge Crests	522616	6851575
04-1-0028 Restricted	No	04-1-0028	AHIMS site not found	N/A	N/A	Ridge Crests	521610	6850486
NLS1	Yes	N/A	Potential Modified Tree	N/A	N/A	Mid Slopes	523314	6851773

Site Name	Identified	AHIMS ID	Description	Raw Material	Feature	Landform	Easting	Northing
NLS 2	Yes	N/A	Potential Archaeological Deposit (PAD)	N/A	N/A	Mid Slopes	522990	6851374
NLS 3	Yes	N/A	Potential Archaeological Deposit	N/A	N/A	Lower Slopes	523088	6851205
NLS 4	Yes	N/A	Artefact + PAD	Silcrete	Core	Mid Slopes	523337	6851286
NLS 5	Yes	N/A	Artefact Scatter + PAD	Silcrete	Flaked piece	Ridge Crests	522233	6851225
NLS 6	Yes	N/A	Artefact Scatter	Silcrete	Flake	Ridge Crests	521898	6851027
NLS 7	Yes	N/A	Potential Archaeological Deposit	N/A	N/A	Ridge Crests	521817	6850765
NLS 8	Yes	N/A	Artefact scatter	Chert, silcrete	Flaked piece, core	Ridge crests	521452	6850534
NLS 9	Yes	N/A	Artefact + Potential Archaeological Deposit	Silcrete	Core	Ridge Crests	520808	6851369
NLS 10	Yes	N/A	Artefact	Silcrete	Core	Ridge Crests	521053	6851406
NLS 11	Yes	N/A	Artefact	Black vol	Flake	Ridge Crests	521037	6850085
NLS 12	Yes	N/A	Artefact	Chert	Flake	Ridge Crests	519855	6850899
NLS 13	Yes	N/A	Artefact+ PAD	Chalcedony	Flake	Ridge Crests	519830	6850842

Site Name	Identified	AHIMS ID	Description	Raw Material	Feature	Landform	Easting	Northing
NLS 15	Yes	N/A	Artefact	Silcrete	Flake	Ridge Crests	519603	6850717
NLS 16	Yes	N/A	Artefact	Silcrete	Flake	Ridge Crests	519600	6850714
NLS 17	Yes	N/A	Artefact Scatter	Silcrete	Flake	Ridge Crests	519564	6850704
NLS 18	Yes	N/A	Artefact	Chert	Flaked Piece	Ridge Crests	519495	6850638
NLS 19	Yes	N/A	Artefact Scatter	Chert/Silcrete	Flake	Ridge Crests	519100	6850280
NLS 20	Yes	N/A	Artefact	Silcrete	Flake	Ridge Crests	519068	6850139
NLS 21	Yes	N/A	Artefact	Chert	Flaked Piece	Ridge Crests	518845	6849904
NLS 22	Yes	N/A	Artefact	Chert	Flaked Piece	Ridge Crests	518680	6849769
NLS 23	Yes	N/A	Artefact + Potential Archaeological Deposit	Chert	Flaked piece	Ridge Crests	520146	6851551
NLS 24	Yes	N/A	Artefact	Chalcedony	Flake	Ridge Crests	520302	6851789
NLS 25	Yes	N/A	Artefact	Silcrete	Core	Ridge Crests	520406	6851857
NLS 26	Yes	N/A	Artefact	Chert	Flake	Ridge Crests	519864	6852446
NLS 27	Yes	N/A	Artefact	Silcrete	Flaked Piece	Ridge Crests	522622	6851480

Site Name	Identified	AHIMS ID	Description	Raw Material	Feature	Landform	Easting	Northing
NLS 28	Yes	N/A	Artefact	Basalt	Axe	Ridge Crests	522192	6852175
NLS 29	Yes	N/A	Potential Archaeological Deposit			Ridge Crests	521420	6849397
NLS 30	Yes	N/A	Artefact scatter	Silcrete/chert	Core/flake	Ridge Crests	520554	6849513
NLS 31	Yes	N/A	Artefact	Chert	Flaked Piece	Ridge Crests	520559	6849588
NLS 32	Yes	N/A	Artefact scatter	Silcrete/chert	Cores	Ridge Crests	520156	6849567
NLS 33	Yes	N/A	Artefact scatter+ PAD	Silcrete	Core/flake	Spur Crest	520165	6849627
NLS 34	Yes	N/A	Artefact scatter+ PAD	Silcrete/chert	Flake	Spur Crest	520134	6849800
NLS 35	Yes	N/A	Artefact	Silcrete	Flake	Spur Crest	520157	6849897
NLS 36	Yes	N/A	Potential Archaeological Deposit				520150	6849881
NLS 37	Yes	N/A	Artefact	Basalt	Axe	Ridge Crest	520100	6849542
NLS 38	Yes	N/A	Artefact Scatter	Chert	Flaked Piece	Ridge Crest	520023	6849519
NLS 39	Yes	N/A	Potential Archaeological Deposit				519847	6849755

APPENDIX D: CULTURAL HERITAGE POLICY

Cultural Heritage Policy

The general approach to conservation of the Aboriginal cultural heritage values as part of the Nightcap on Minjungbul include:

- Aboriginal cultural values will be recognised and respected as a fundamental value of the Nightcap on Minjungbul RLSC while recognising that the RLSC can be developed in a manner which supports the conservation of Aboriginal cultural heritage values.
- Adoption of an 'Ask First' policy for all strategic planning matters that might impact on Aboriginal heritage values and establishment of a RLSC advisory committee to assist with the culturally appropriate community engagement.
- Avoidance of Aboriginal cultural values, including Aboriginal sites, in preference to harm to Aboriginal cultural values and inclusion of procedures to reduce impacts to Aboriginal heritage values and sites in ways that fundamentally add to the objectives of the RLSC.

Owner's or Steward's Requirements

The requirements of the owners and stewards of the RLSC include:

- Adherence to regulations and laws with respect to Aboriginal cultural heritage as embodied by the RLSC ethics, policies, governance arrangement and planning approvals.
- All RLSC members have a report any incidents that are considered to harm or desecrate Aboriginal heritage values.
- Where possible, make a positive contribution to Aboriginal heritage sites and places as outline in RLSC ethics, policies and approvals, including participation in initiatives which actively engage Minjungbul people in projects within the RLSC.
- Come to an agreement with representatives of the Aboriginal community with respect to the use of Aboriginal languages and words within public spaces and marketing material.

Regulations and approvals.

The following regulations and approvals must be considered by the RLSC:

- Environmental Planning Assessment Act (1979) and any Development Approvals and Construction Certificates;
- The National Parks and Wildlife Act (1974) and Regulations (2019) with respect to Aboriginal sites and Places.
- The Tweed Byron Shire Aboriginal Cultural Heritage Management Plan.
- NSW Heritage Act (1977).

What items can be subject to regulatory approval?

The heritage items which can be subject to regulatory approval include:

- Low density stone artefact scatters and isolated artefacts which have been subject to previous ground disturbance.
- Ridgelines and spurs where the future use by the RLSC as roads and infrastructure is generally sympathetic and complementary to traditional use.
- Regrowth bushland and forest which has been substantially changed as a result of historic land-use.

What items cannot be subject to regulatory approval?

The heritage items which cannot be subject to regulatory approval include:

- Aboriginal places and areas of 'intangible' cultural heritage value.
- Forests and bushland which has not been significantly disturbed by historic land use.
- Waterways and springs.
- Views and lookouts to Wollumbin and other prominent landscape features.

What to do with Aboriginal archaeological sites?

The following general strategies will be applied to manage Aboriginal archaeological sites.

- All future works will be subject to an Aboriginal cultural heritage assessment which is undertaken in consultation with Aboriginal stakeholders.
- Future works with the potential to impact on Aboriginal archaeological sites will be undertaken in accordance with the conditions of an Aboriginal heritage Impact Permit.
- The following broad principles and policies will guide management of Aboriginal archaeological sites;

    i. The RLSC acknowledges that the retention of Aboriginal objects 'on country' is the preferential outcome for Aboriginal objects. As such all members of the RLSC have an obligation to provide adequate space and security for Aboriginal objects that might be subject to Harm as a result of civil works.

    ii. Avoidance of sites is the preferred management response, and where possible engineering solutions will be sought to reduce potential harm to Aboriginal sites. This may include, for example;

        a) the diversion of roads around archaeological sites;

        b) Placement of building envelopes on slopes soas to avoid known sites and potential archaeological deposits;

        c) the redesign of buildings to minimize ground disturbance by using piers in preference to concrete slabs;

        d) provision of cultural site inductions and identification/awareness material for members to assist in the management of Aboriginal objects;

        e) the use of low impact bush regeneration methods such as 'cut+paste/drill+fill' methods in preference to regeneration methods which involve removal of invasive weeds by large machine;

        f) development of reporting and recording systems to ensure that RLSC members have access to Aboriginal site information to assist them to manage Aboriginal objects; and

        g) retention and remediation of top soils which contain, or have the potential to contain, Aboriginal objects as discrete management areas within the RLSC.

What are the gaps in existing knowledge?

The following knowledge gaps are identified and will be resolved via further consultation and investigation;

- Aboriginal stakeholders and governance. The interest of the Aboriginal community in the project and the interest in participating in the development of the Project will be subject to a community consultation/ registration process which includes consultation in accordance with the ACHRCP guidelines. This may include the development of an Aboriginal advisory group or similar.
- Intangible values and places. Additional cultural information about intangible values and places will be identified through an Aboriginal community planning process, which will be required prior to detailed RLSC planning and approval, which may be undertaken by the Aboriginal advisory group or similar.
- The nature and extent of archaeological sites. Additional archaeological excavation will be required to better understand the archaeological value of the Project Area and the potential impact of the RLSC on Aboriginal archaeological values.

Who should receive copies of this document?

Copies of this document should be provided as an attachment to all ACHA documents and be provided to all future landowners, contractors to undertake the Proposed Works and to Heritage NSW.

What are the interpretation requirements?

The interpretation objectives of the project include;

- Recognition of Minjungbul people as the 'owners' of Aboriginal knowledge and primary decision makers with respect to Aboriginal cultural values and sites.
- The use of names and works within the RLSC community should be subject to advice from the Aboriginal community/ advisory committee.
- Introduction of new interpretive signs, including statements from Aboriginal community members, would generally add to the visitor appreciation of the values of the RLSC.

- Interpretive material should be 'holistic' in nature and aim to make a positive construction to the objectives of the RLSC.

Are there any confidential matters to be included in an appendix?

There are no confidential matters which require consideration or attachment to this plan. However, in the event of future assessment and consultation the services of an agreed expert in cultural and intellectual property should be appointed to assist with the management of confidential material and information.

Review

This policy should be reviewed with any subsequent development applications.

APPENDIX E: CULTURAL HERITAGE INDUCTION

11.1.1. ABORIGINAL OBJECTS / ARTEFACTS – WHAT ARE THEY?

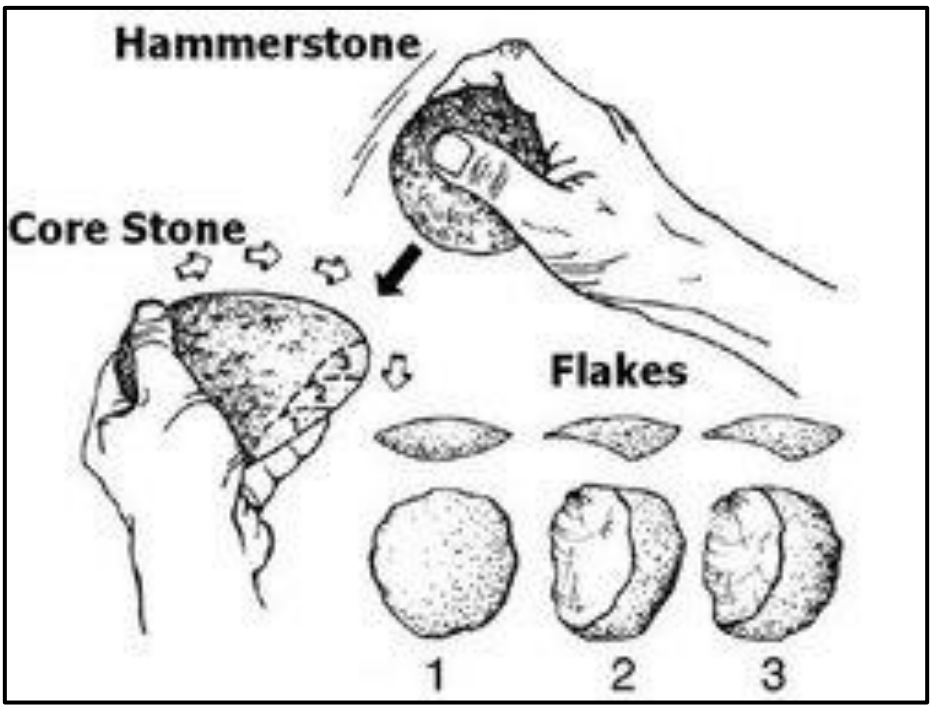

Figure 10: Stone tool production by percussion (source sciencemag.org).

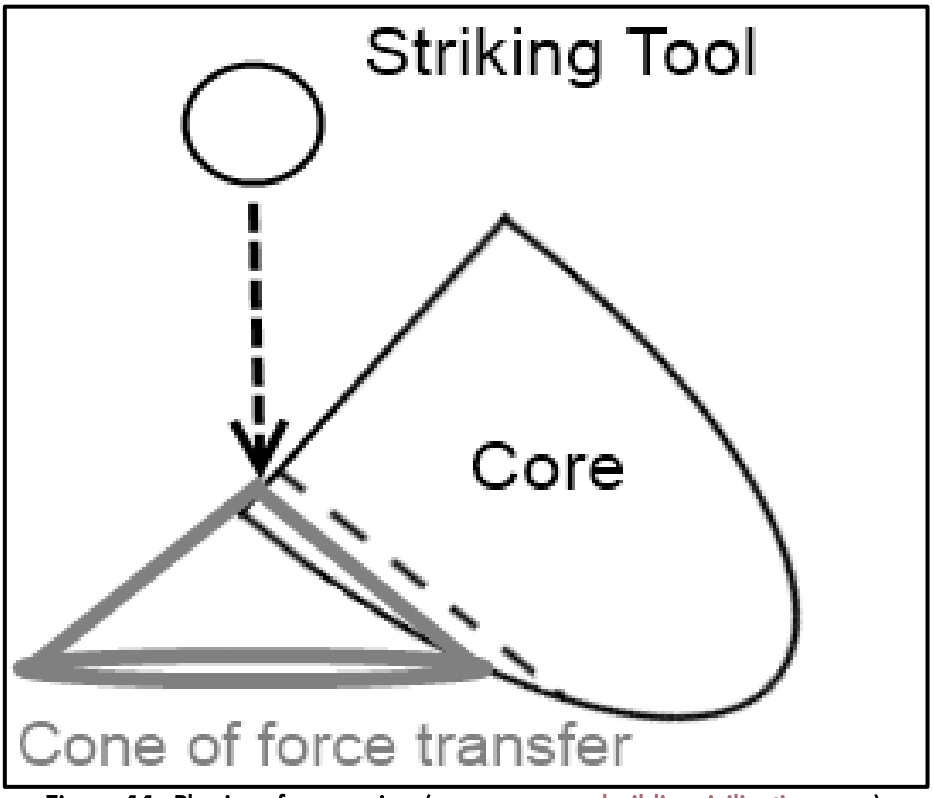

Figure 11: Physics of percussion (source www.rebuildingcivilization.com).

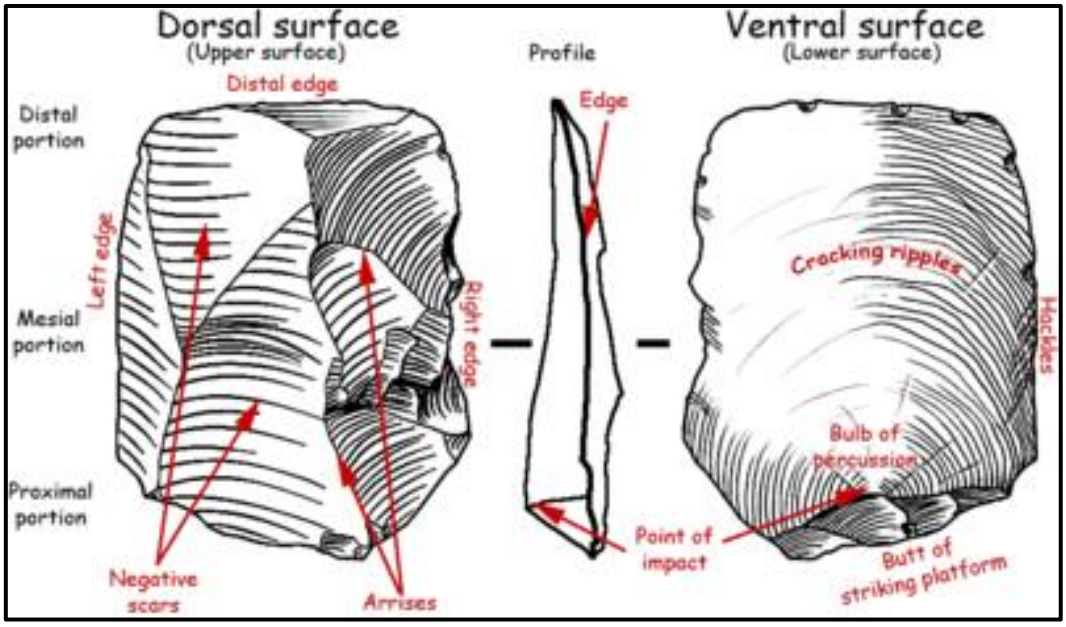

Figure 12: Stone artefact terminology.

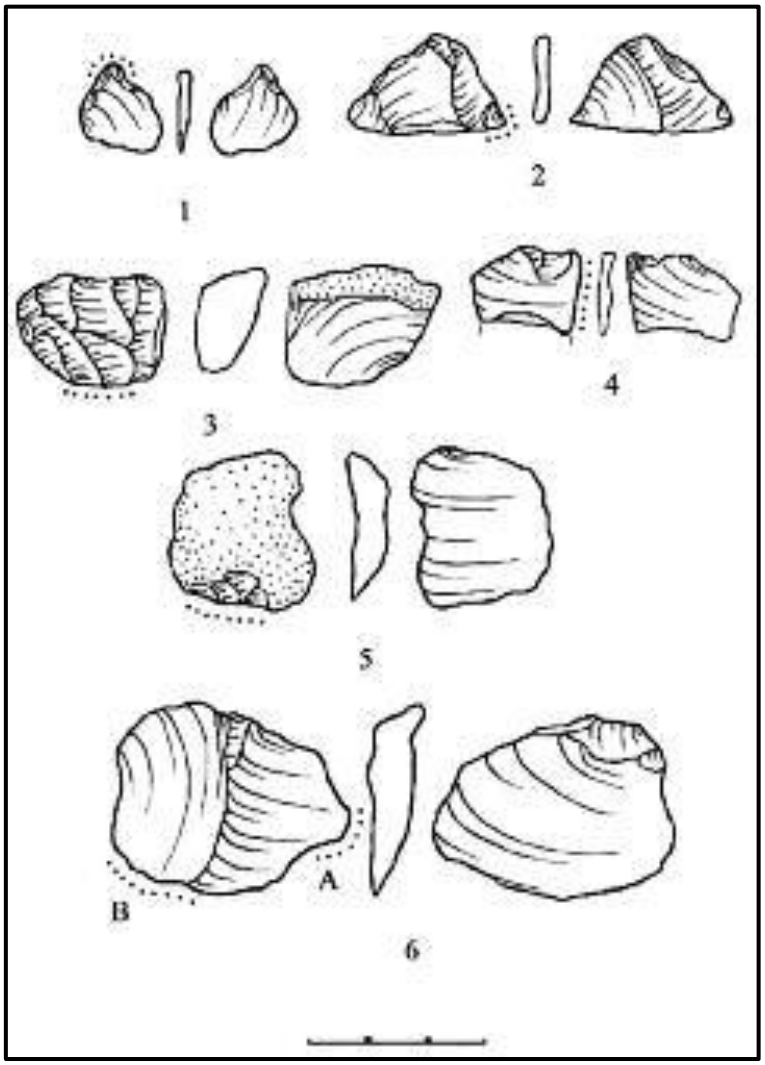

Figure 13: Chert stone tools (source www.researchgate.net).

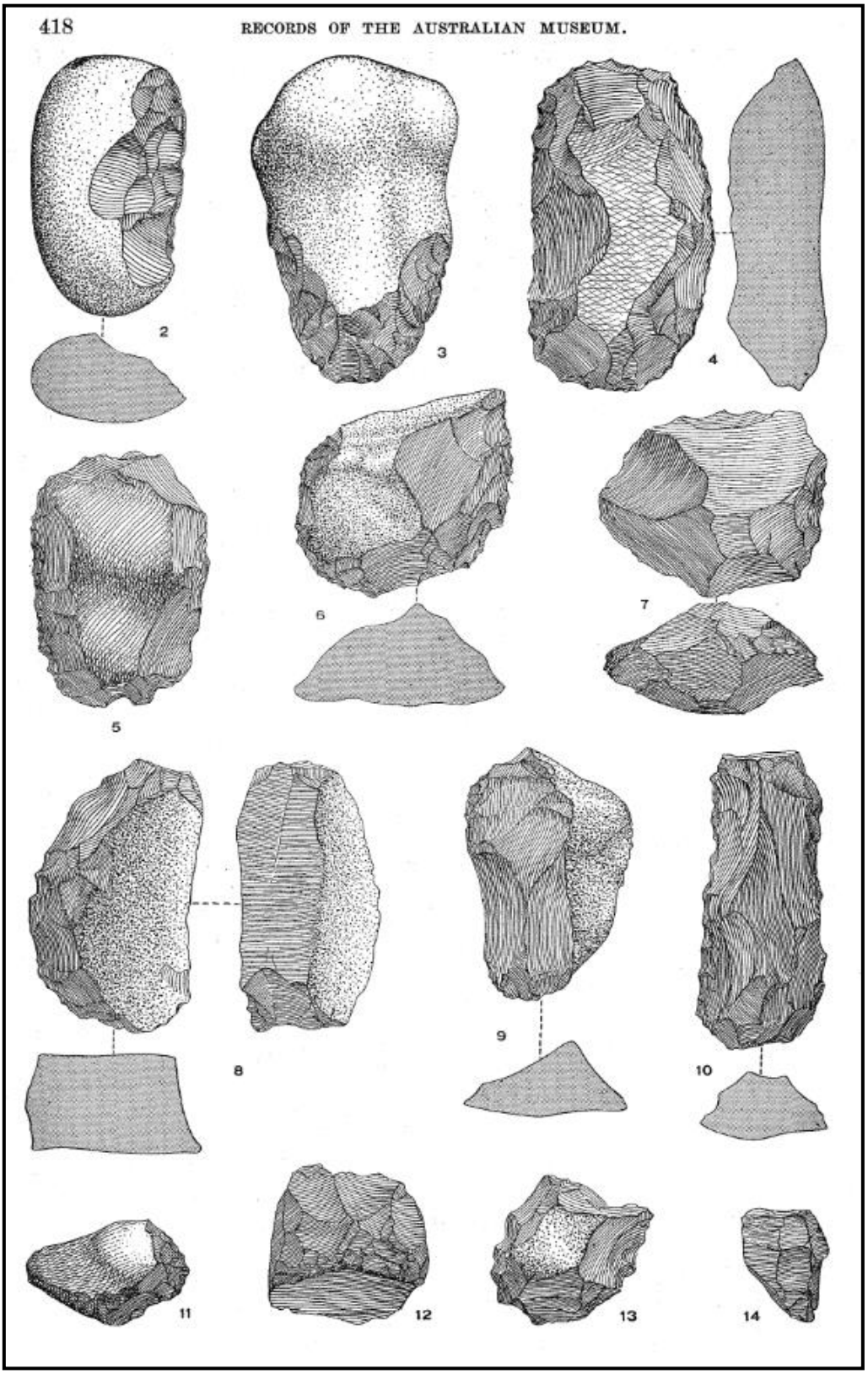

Figure 14: Typical coastal stone tools (McCarthy 1947).

Figure 15: Example of jasper flake.

Figure 16: Silcrete core.

Figure 17: Chalcedony flake piece.

Figure 18: Hammer stone.

Figure 19: Example of knapping (unifacial chopper).

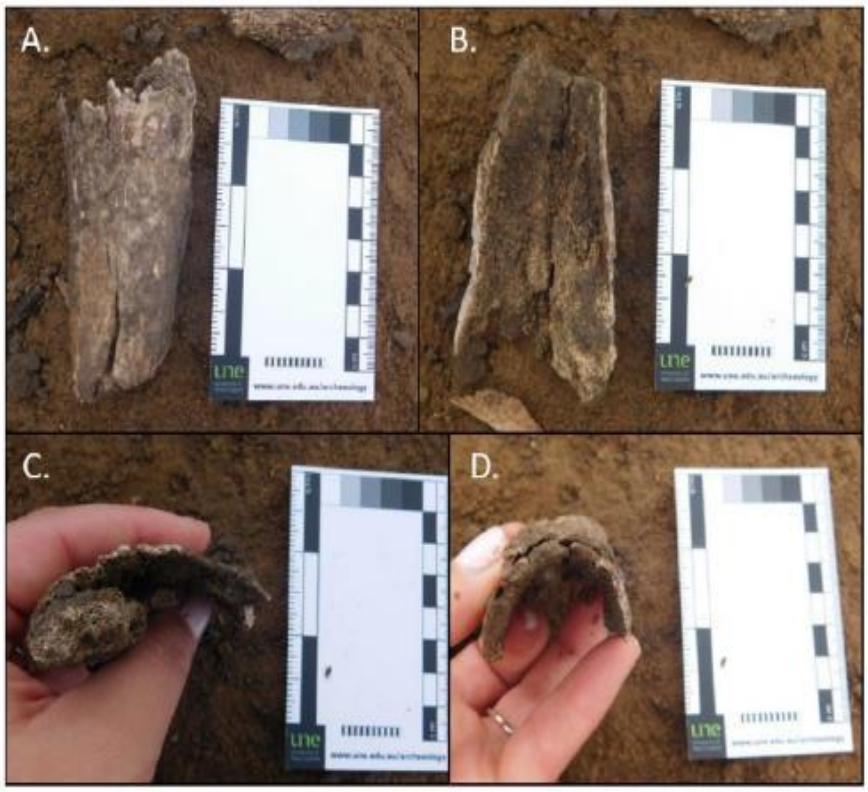

Figure 20: Bone fragments (cow).

Figure 21: Heritage NSW archaeologist Roger Mehr undertaking burial investigation.

Figure 22: Traditional burial (source Griffith University).

Figure 23: Making a shield and fishing, North Shore (Thomas Dick Collection).

Figure 24: Aboriginal scarred tree (Armidale Airport Industrial Area).

Figure 25: Aboriginal carved tree (source National Library of Australia).

Figure 26: Bora ground (source Samford Historical Museum).

11.1.2. NATIONAL PARKS AND WILDLIFE ACT (1974)

- The National Parks and Wildlife Act 1974 (NSW) (NPW Act) is the primary legislation concerning the identification and protection of Aboriginal cultural heritage. It provides for the management of both Aboriginal Objects and Aboriginal Places. Under the NPW Act, an Aboriginal Object is any deposit, object, or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area, regardless of whether the evidence of habitation occurred before or after non-Aboriginal settlement of the land. This means that every Aboriginal Object – regardless of its size or seeming isolation from other Objects – is protected under the Act.
- An Aboriginal Place is an area of particular significance to Aboriginal people which has been declared an Aboriginal Place by the Minister. The drafting of this legislation reflects the traditional focus on Objects, rather than on areas of significance such as story places and ceremonial grounds. However, a gradual shift in cultural heritage management practices is occurring towards recognising the value of identifying the significance of areas to Indigenous peoples beyond their physical attributes.
- With the introduction of the National Parks and Wildlife Amendment Act 2010 (NSW) the former offence provisions under Section 86 of 'disturbing', 'moving', 'removing', or 'taking possession' of Aboriginal Objects or Places have been replaced by the new offence of 'harming or desecrating'. The definition of 'harm' is 'destroying, defacing, or damaging an Object'. Importantly, in the context of the management recommendations in this assessment, harm to an Object that is 'trivial or negligible' will not constitute an offence.
- The new amendments also significantly strengthen the penalty provisions. The issue of intent to harm Aboriginal cultural heritage has been formally addressed by separating it from inadvertent harm. The penalty for individuals who inadvertently harm Aboriginal Objects has been set at up to $55,000, while for corporations it is $220,000. Also introduced is the concept of 'circumstances of aggravation' which allows for harsher penalties (up to $110,000) for individuals who inadvertently harm Aboriginal heritage in the course of undertaking a commercial activity or have a record for committing similar offences. For those who knowingly harm Aboriginal cultural heritage, the penalty will rise substantially. The maximum penalty will be set at $275,000 or one year imprisonment for individuals, while for corporations it will rise to $1,100,000.

11.1.3. APPENDIX 3: KNOWN SITES AND MAPPING

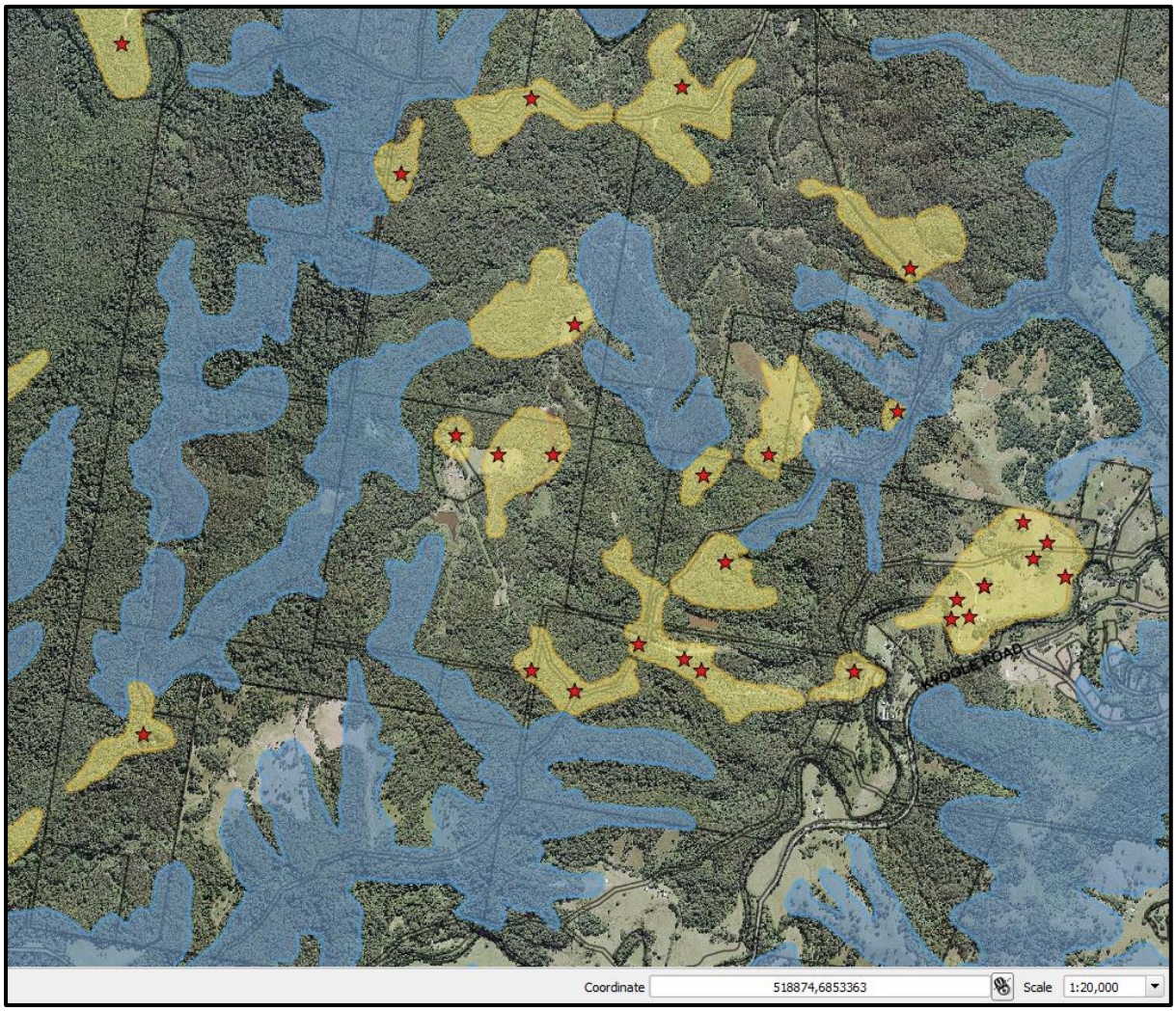

Figure 27: TBLALC mapping showing previously recorded sites (red) from TBLALC database, and known (yellow) and predictive (blue) heritage layer.

11.1.4. APPENDIX 4: ABORIGINAL OBJECTS FINDS PROCEDURE

- The Proponent acknowledges that further Aboriginal Objects, not already identified by past archaeological surveys, may be discovered during the course of the construction phase of the Development. These potential discoveries fall into two (2) distinct categories; Aboriginal Objects and Aboriginal human remains.

1. Aboriginal Objects

- The Aboriginal Objects Find Procedure will apply to all areas outside those previously recorded.

In the event of an unexpected find of an Aboriginal object, the following process will be carried out immediately by Construction Staff and /or Contractors:

1. Construction work must cease in the immediate vicinity of the potential Find and an Exclusion Zone of at least 10 (10) meters in radius must be established around the identified Aboriginal Object(s). The Exclusion Zone may be established using flags, pins, tape or temporary fencing, as deemed appropriate by the Proponent. All other Construction works may continue in other areas.
2. A Cultural Heritage Advisor and Aboriginal sites officers of the Aboriginal Stakeholders must be called to visually inspect and identify the Find.
3. If the Cultural Heritage Advisor and Aboriginal sites officers of the Aboriginal Stakeholders is satisfied that the object is not Cultural Heritage, the Exclusion Zone may then be removed and Construction works may continue.
4. If the object is an Aboriginal Object, the Cultural Heritage Advisor must:
    i. notify the BCD of the find in the prescribed manner (Enviro Hotline and AHIMS register);
    ii. notify the Registered Aboriginal Stakeholders of the Find;
    iii. together with the Registered Aboriginal Stakeholders, assess the cultural significance of the Find and engineering solutions to avoid the Aboriginal object in accordance with the guidelines; and
    iv. where harm cannot be avoided, commence the procedures for seeking an Aboriginal Heritage Impact Permit under the NPW Act as required.

2. Aboriginal Human Remains

1. Where human remains are found, the Site should be cordoned off and the remains themselves should remain untouched. Efforts should then be made to notify the New South Wales Police Service, Heritage NSW and Tweed Byron Local Aboriginal Land Council.
2. The remains should be examined by a physical anthropologist or medical practitioner in order to establish their ancestry (as Aboriginal or European). The antiquity of the remains should also be determined by a physical anthropologist.

3. The Find should then be reported to the Registered Aboriginal Stakeholders. Any report should use respectful language, treating them as the remains of Aboriginal people rather than as scientific specimens, and be written in plain English.

11.1.5. APPENDIX 5: INDUCTION RECORD

NAME	DATE	ROLE	SIGNATURE	INDUCTION PROVIDER SIGNATURE